

SADDLEHORN RANCH - FILING 1

A PARCEL OF LAND LOCATED IN THE SOUTH HALF OF SECTION 3 AND THE NORTH HALF OF THE NORTH HALF OF SECTION 10
TOWNSHIP 13 SOUTH, RANGE 64 WEST OF THE 6TH P.M.,
EL PASO COUNTY, STATE OF COLORADO

GRADING AND EROSION CONTROL PLANS



Know what's below.
Call before you dig.

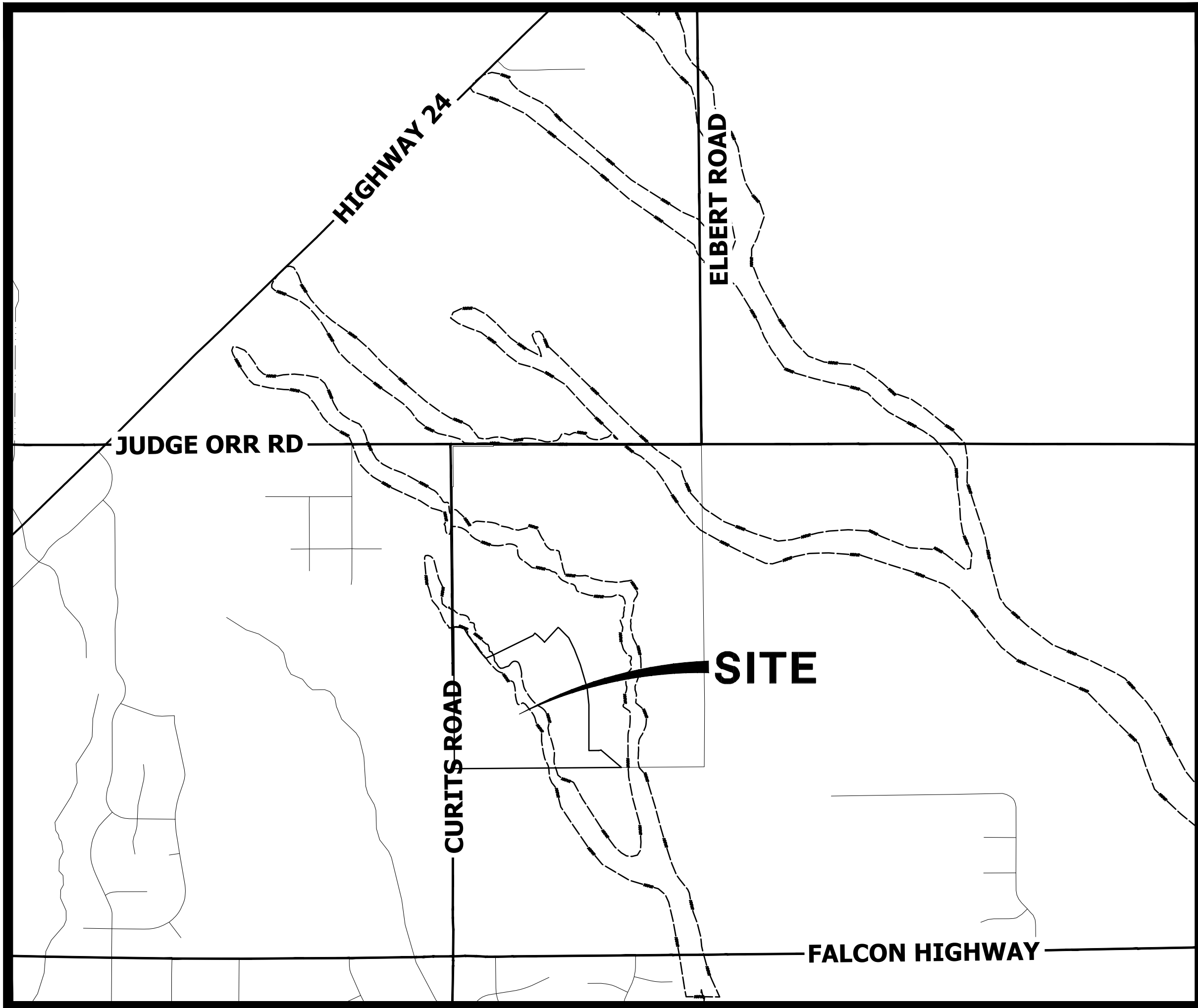
UNTIL SUCH TIME AS
THESE DRAWINGS ARE
APPROVED BY THE
APPROPRIATE REVIEWING
AGENCIES, JR ENGINEERING
APPROVES THEIR USE
FOR THE PROJECT PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION.

PREPARED FOR
ROI PROPERTY GROUP, LLC
2495 RIGDON STREET
NAPA, CALIFORNIA
(707) 365-6891
BRADY WILLIAMS

J-R ENGINEERING
A Western Company
Central 303-740-9883 • Colorado Springs 719-588-2583
Fort Collins 970-491-9888 • www.jrengineering.com

ABBREVIATIONS

AC	ACRE	INT	INTERSECTION
AD	ALGEBRAIC DIFFERENCE	INV	INVERT
AH	AHEAD	IRR	IRRIGATION
ARCH	ARCHITECT	KB	KICK (THRUST) BLOCK
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	LB	POUND
ASS'Y	ASSEMBLY	LE	LANDSCAPE EASEMENT
AVE	AVENUE	LF	LINEAR FOOT
BB	BOX BASE	LN	LANE
BK	BACK	LQMR	LETTER OF MAP REVISION
BNDY	BOUNDARY	LP	LOW POINT
BOP	BOTTOM OF PIPE	LS	LUMP SUM
BOV	BLOW OFF VALVE	LT	LEFT
BFV	BUTTERFLY VALVE	MAX	MAXIMUM
BLVD	BOULEVARD	M/D	MOISTURE DENSITY
BW	BOTTOM OF WALL	MDDP	MASTER DEVELOPMENT DRAINAGE PLAN
C&G	CURB & GUTTER	MH	MANHOLE
CATV	CABLE TELEVISION	MIN	MINIMUM
CB	CATCH BASIN	MS	MOUNTABLE SIDEWALK
CBC	CONCRETE BOX CULVERT	N	NORTH
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	NRCP	NON-REINFORCED CONCRETE PIPE
CDS	CUL-DE-SAC	ODP	OFFICIAL DEVELOPMENT PLAN
CF	CUBIC FOOT	OHE	OVERHEAD ELECTRIC
CFS	CUBIC FEET PER SECOND	OHU	OVERHEAD UTILITY
CIP	COMPLETE IN PLACE	PC	POINT OF CURVATURE
CL	CENTER LINE	PCC	POINT OF COMPOUND CURVATURE
CLOMR	CONDITIONAL LETTER OF MAP REVISION	PCR	POINT OF CURB RETURN
CLR	CLEAR	PDP	PRELIMINARY DEVELOPMENT PLAN
CMP	CORRUGATED METAL PIPE	PE	PROFESSIONAL ENGINEER
CO	CLEAN OUT	PI	POINT OF INTERSECTION
COCs	CITY OF COLORADO SPRINGS	PKWY	PARKWAY
CONC	CONCRETE	PL	PROPERTY LINE
CR	CIRCLE	PR	PROPOSED
CSP	CORRUGATED STEEL PIPE	PRC	POINT OF REVERSE CURVATURE
CSU	COLORADO SPRINGS UTILITIES	PT	POINT OF TANGENCY
CT	COURT	PV	PLUG VALVE
CTRB	CONCRETE THRUST REDUCER	PVC	POLYVINYL CHLORIDE
CY	CUBIC YARD	R	RADIUS
DBPS	DRAINAGE BASIN PLANNING STUDY	RCBC	REINFORCED CONCRETE BOX CULVERT
DE	DRAINAGE EASEMENT	RCP	REINFORCED CONCRETE PIPE
DIA	DIAMETER	RD	ROAD
DIP	DUCTILE IRON PIPE	ROW	RIGHT OF WAY
DR	DRIVE	RT	RIGHT
DRC	DESIGN REVIEW COMMITTEE	S	SOUTH
DU	DWELLING UNITS	STE	STEEL
DY	DAY	SAN	SANITARY SEWER
E	EAST	SF	SQUARE FOOT
EA	EACH	ST	STREET
EGL	ENERGY GRADE LINE	STA	STATION
EL	ELEVATION	STM	STORM SEWER
ELEC	ELECTRIC	SY	SQUARE YARD
EOA	EDGE OF ASPHALT	SY-IN	SQUARE YARD INCH
EPC	EL PASO COUNTY	TB	THRUST BLOCK
ERCP	ELLIPTICAL RCP	TBC	TOP BACK OF CURB
ESMT	EASEMENT	TBW	TOP BACK OF WALK
EST	ESTIMATE	TEL	TELEPHONE
EX	EXISTING	TN	TON
FDP	FINAL DEVELOPMENT PLAN	TOA	TOP OF ASPHALT
FDR	FINAL DRAINAGE REPORT	TOB	TOP OF BOX
FES	FLARED END SECTION	TOC	TOP OF CURB OR CONCRETE
FF	FINISHED FLOOR ELEVATION	TOP	TOP OF FOUNDATION
FG	FINISHED GRADE	TOP	TOP OF PIPE
FH	FIRE HYDRANT	TW	TOP OF WALL
FL	FLOWLINE	TYP	TYPICAL
FL	FILING	UDFCD	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT
FO	FIBER OPTIC CABLE	UE	UTILITY EASEMENT
GB	GRADE BREAK	U&DE	UTILITY & DRAINAGE EASEMENT
GE	GAS EASEMENT	UGE	UNDERGROUND ELECTRIC
GIS	GEOGRAPHIC INFORMATION SYSTEM	VCP	VITRIFIED CLAY PIPE
GL	GAS LINE	VPC	VERTICAL POINT OF CURVATURE
GPS	GLOBAL POSITIONING SYSTEM	VPI	VERTICAL POINT OF INTERSECTION
GV	GATE VALVE	VPT	VERTICAL POINT OF TANGENCY
HBP	HOT BITUMINOUS PAVEMENT	VTC	VEHICLE TRACKING CONTROL
HC	HANDICAP	W	WEST
HDC	HIGH DEFLECTION COUPLING	WL	WATER LINE
HDPE	HIGH DENSITY POLYETHYLENE	WM	WATER MAIN
HGL	HYDRAULIC GRADE LINE	WRD	WATER RESOURCES DEPARTMENT
HMA	HOT MIX ASPHALT	WS	WATER SURFACE
HOA	HOME OWNERS ASSOCIATION	WSE	WATER SURFACE ELEVATION
HP	HIGH POINT	WTR	WATER
HR	HOUR	YR	YEAR
I	INLET		
IE	IRRIGATION EASEMENT		



VICINITY MAP

SCALE: 1" = 2000'

SHEET INDEX

1	-	COVER SHEET
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3	-	TYPICAL SECTIONS
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12-15	-	GRADING AND EROSION CONTROL DETAILS

CONTACTS:

OWNER	ROI PROPERTY GROUP, LLC 2495 RIGDON STREET NAPA, CALIFORNIA 94558 P~707-633-9700
DEVELOPER	WILLIAM GUMAN & ASSOCIATES ATTN: BILL GUMAN 731 NORTH WEBER STREET, SUITE 10 COLORADO SPRINGS, CO 80903 P~(719) 633-9700
ENGINEER/SURVEYOR	JR ENGINEERING, LLC ATTN: MIKE A. BRAMLETT 5475 TECH CENTER DRIVE, SUITE 235 COLORADO SPRINGS, CO 80919 P~(303) 267-6240
FIRE PROTECTION DISTRICT	FALCON FIRE PROTECTION 12072 ROYAL COUNTY DOWN ROAD FALCON, CO 80831 P~(719) 495-4050
WATER AND SEWER DISTRICT	METRO DISTRICT TO BE ESTABLISHED PRIOR TO FINAL PLAT.



J-R ENGINEERING

BENCHMARK

TBD BY BOUNDARY SURVEY.

BASIS OF BEARINGS

TBD BY BOUNDARY SURVEY.

EL PASO COUNTY STATEMENT

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

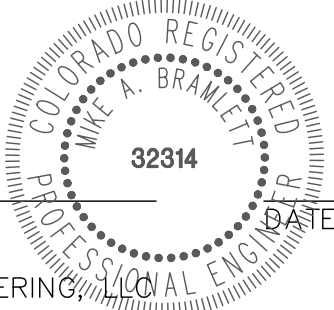
IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JENNIFER IRVINE, P.E. DATE

COUNTY ENGINEER/ECM ADMINISTRATOR

ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLANS.



MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING

THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

BILL GUMAN

DATE

WILLIAM GUMAN AND ASSOCIATES
731 NORTH WEBER STREET
COLORADO SPRINGS, CO 80903

SADDLEHORN RANCH -
FILING 1

COVER SHEET

SHEET 1 OF 15

JOB NO. 2514202

GRADING AND EROSION CONTROL STANDARD NOTES

1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PLANNING AND COMMUNITY DEVELOPMENT AND A PRECONSTRUCTION CONFERENCE IS HELD WITH PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS.
2. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITE WATERS, INCLUDING WETLANDS.
3. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
4. A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
5. ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPs AS INDICATED ON THE GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY PCD INSPECTIONS STAFF.
6. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
7. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
8. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
9. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
10. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
11. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
12. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
13. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
14. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
15. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
16. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
18. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
19. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
20. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
21. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
22. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
23. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
24. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
25. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DOM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
26. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
27. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
28. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
29. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING AND SHALL BE CONSIDERED A PART OF THESE PLANS.
30. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD – Permits
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Attn: Permits Unit

LAYER LINETYPE LEGEND

	EXISTING	PROPOSED
PHASE LINE		
MATCH LINE		
SECTION LINE		
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
R.O.W. A LINE		
CENTERLINE		
CITY LIMITS		
WIRE FENCE		
CHAIN LINK FENCE		
WOOD FENCE		
MASONRY FENCE		
GUARDRAIL		
CONC. BARRIER		
CABLE TV		
ELECTRIC		
FIBER OPTIC		
GAS MAIN		
IRRIGATION MAIN		
OIL/PETRO. MAIN		
OVERHEAD UTILITY		
SANITARY SEWER		
STORM DRAIN		
TELEPHONE		
WATER MAIN		
RAW WATER LINE		
SWALE/WATERWAY FLOWLINE		
DIVERSION DITCH		
DIVERSION CHANNEL		
MAJOR DRAINAGE BASIN		
MINOR DRAINAGE BASIN		
TOP OF SLOPE		
TOE OF SLOPE		
EDGE OF WATER		
INDEX CONTOUR		
INTERMEDIATE CONTOUR		
DEPRESSION CONT. (INDEX)		
DEPRESSION CONT. (INTER)		
TOP OF CUTS		
TOE OF FILLS		
CUT AND FILL LINE		
SILT FENCE		
100 YEAR FLOODPLAIN		
500 YEAR FLOODPLAIN		
FLOODWAY		
BASE FLOOD ELEVATION		
EDGE OF WETLANDS		
STONE WALL		

UTILITIES LEGEND

	EXISTING	PROPOSED
STORM SEWER		
MANHOLE		
STORM INLET		
AREA INLET – SQUARE		
AREA INLET – ROUND		
FLARED END SECTION		
RIPRAP		
SANITARY SEWER		
LINE MARKER		
SERVICE MARKER		
CLEAN-OUT		
MANHOLE W/ DIRECTIONAL FLOW ARROW		
WATER LINE		
LINE MARKER		
SERVICE MARKER		
FIRE HYDRANT		
FIRE CONNECTION		
MANHOLE		
BEND		
BLOW-OFF VALVE		
WELL		
METER		
VALVE		
REDUCER		
THRUST BLOCK		
CROSS		
PLUG W/ THRUST BLOCK		
TEE		
REVERSE ANCHOR		
ANODE		
AIR & VACUUM VALVE ASSEMBLY		
TRANSMISSION BLOW-OFF ASSEMBLY		
GAS LINE		
MARKER		
SERVICE MARKER		
METER		
VALVE		
PLUG		
TEE		
DRY UTILITIES		
CABLE TV MARKER		
CABLE TELEVISION PEDESTAL		
ELECTRIC MARKER		
ELECTRIC SERVICE MARKER		
ELECTRICAL PEDESTAL		
ELECTRICAL METER		
ELECTRICAL MANHOLE		
FIBER-OPTIC MARKER		
IRRIGATION PEDESTAL		
TELEPHONE MARKER		
TELEPHONE PEDESTAL		
TELEPHONE MANHOLE		
UTILITY POLE		
GUY ANCHOR		
GUY POLE		
MISC. UTILITIES		
VENT PIPE		
TEST HOLE DESIGNATOR		

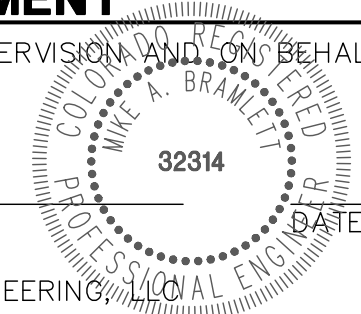
STORM WATER MANAGEMENT

KEY	SYMBOL
CHECK DAM	
CONSTRUCTION ROAD STABILIZATION	
CURB SOCK INLET PROTECTION	
CONCRETE WASHOUT AREA	
DIVERSION DITCH AND DIKE, TEMPORARY	
DIVERSION CHANNEL, TEMPORARY	
DEWATERING	
EROSION CONTROL BLANKET	
INLET FILTER	
INLET PROTECTION	
MULCHING	
OUTLET PROTECTION	
PAVED FLUME	
PERMENTENT SEEDING	
REINFORCED CONCRETE DAM	
ROUGH CUT STREET CONTROL	
SEDIMENT BASIN	
SEDIMENT CONTROL LOG	
SILT FENCE	
SURFACE ROUGHENING	
STABILIZED STAGING AREA	
SEDIMENT TRAP	
STRAW BALE BARRIER	
TERRACING	
TEMPORARY SEEDING	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE	
TEMPORARY STREAM CROSSING FORD TYPE	
TEMPORARY SLOPE DRAIN	
VEHICLE TRACKING CONTROL	
VEHICLE TRACKING CONTROL WITH WASH RACK	

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING



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BY

DATE

No. REVISION

N/A

N/A

09/11/19

NQJ

NQJ

NQJ

DESIGNED BY

DRAWN BY

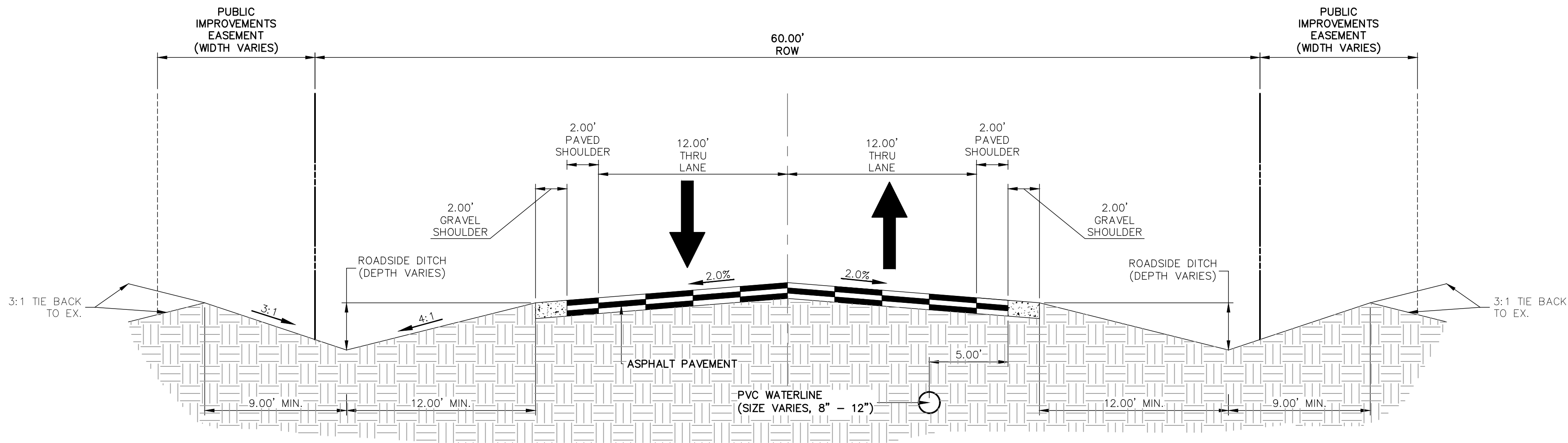
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SADDLEHORN RANCH –
FILING 1

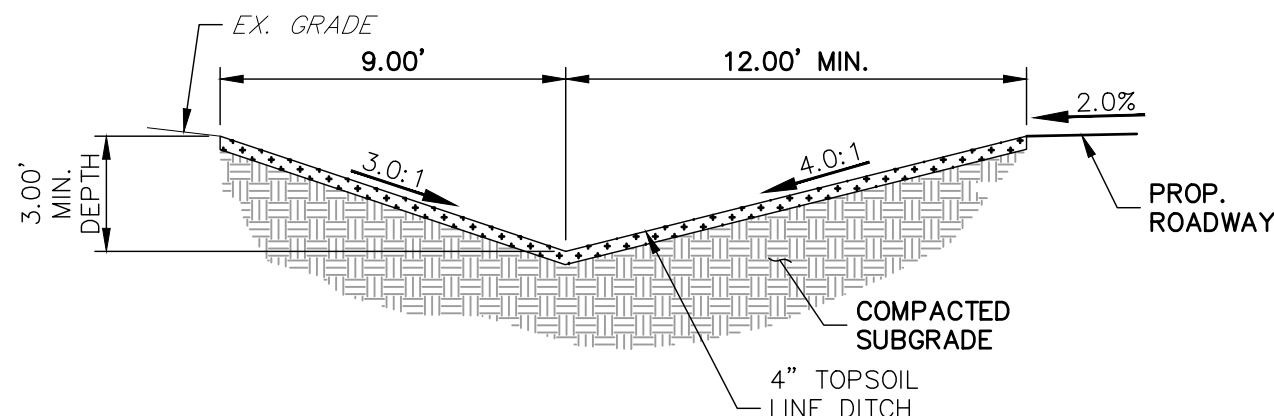
GRADING & EROSION
CONTROL DETAILS & LEGEND

SHEET 2 OF 15

JOB NO. 2514202



TYPICAL RURAL LOCAL
POSTED SPEED LIMIT = 30 MPH, DESIGN SPEED LIMIT = 30 MPH
SCALE: 1" = 5'

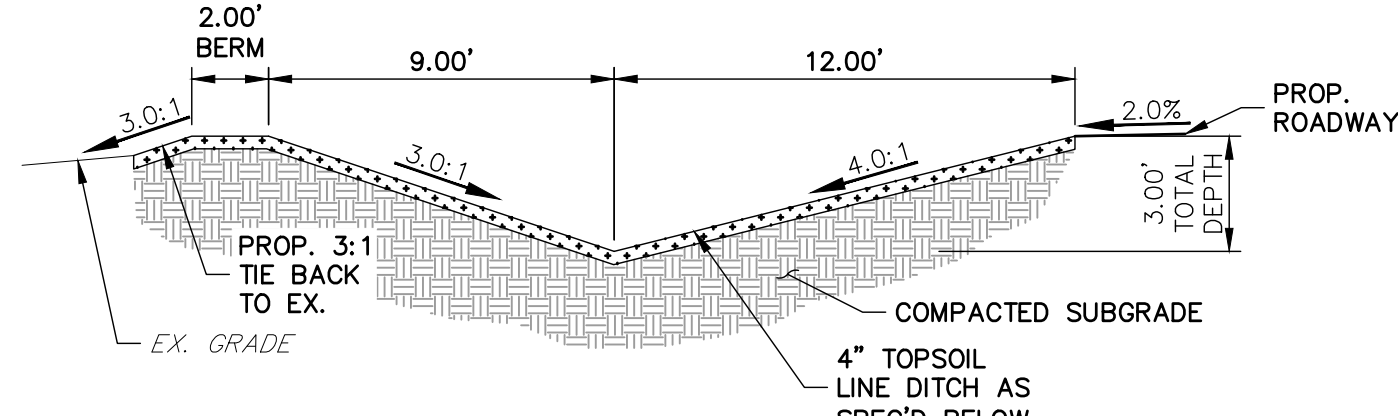


SWALE SECTION A-A
SCALE: 1" = 5'

*FOR SLOPES 0.5-5.0% - EROSION CONTROL BLANKET
- STRAW COCONUT S75 W/ NATIVE SEEDING

ROADSIDE SWALE NOTES

- SWALE SECTION A-A PROVIDES MINIMUM SWALE DIMENSIONS. IN AREAS WHERE 3:1 TIE BACK TO EXISTING DOES NOT PROVIDE MINIMUM SWALE DEPTH, SWALE TO BE CUT DEEPER SUCH THAT 3' DEPTH IS PROVIDED RELATIVE TO EXISTING GRADE.
- SWALE SECTION B-B TO BE USED IN FILL AREAS OF ROADWAY WHERE CUTTING SWALE DEEPER TO ACHIEVE 3.0' DEPTH RELATIVE TO EXISTING GRADE CAN NOT BE ACHIEVED DUE TO DOWN STREAM GRADE REQUIREMENTS. 2.0' BERM MUST BE PROVIDED TO MITIGATE FUTURE EROSION.



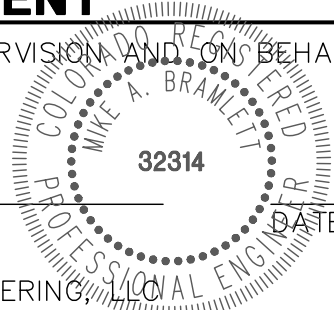
SWALE SECTION B-B
SCALE: 1" = 5'

*FOR SLOPES 0.5-5.0% - EROSION CONTROL BLANKET
- STRAW COCONUT S75 W/ NATIVE SEEDING

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING



SADDLEHORN RANCH -
FILING 1

TYPICAL SECTIONS

SHEET 3 OF 15

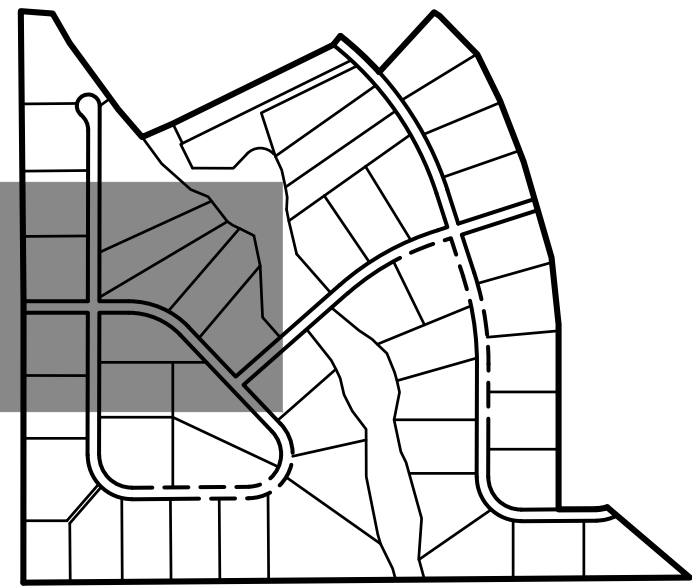
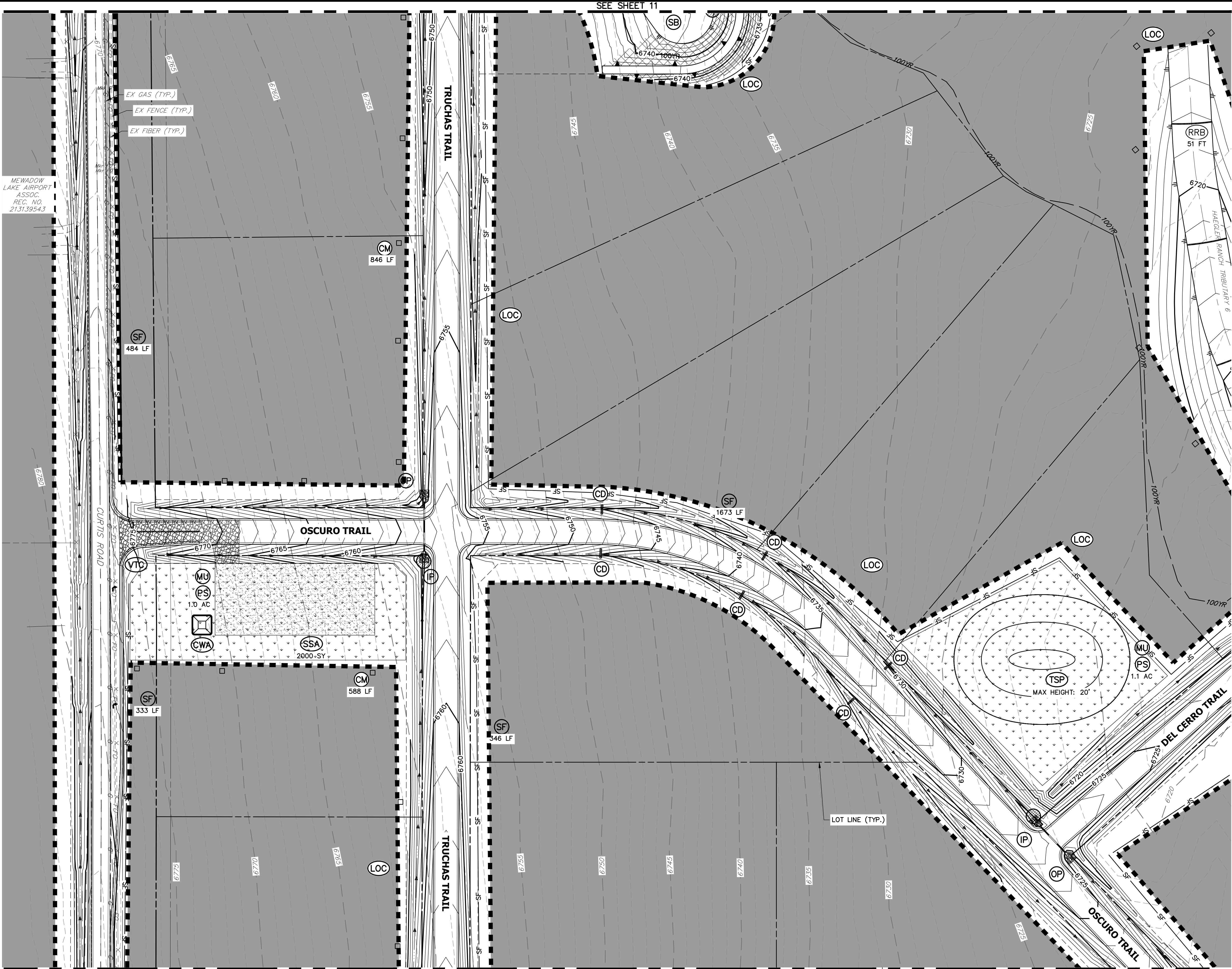
JOB NO. 2514202

VARIES	REVISION	BY	DATE
H-SCALE			
V-SCALE			
DATE			
DESIGNED BY			
DRAWN BY			
CHECKED BY			

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A Western Company
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Fort Collins 970-491-9888 • www.jrengineering.com

PREPARED FOR
ROI PROPERTY GROUP, LLC
2495 RIGDON STREET
NAPA, CALIFORNIA
(707) 365-6891
BRADY WILLIAMS

UNTIL SUCH TIME AS
THESE DRAWINGS ARE
APPROVED BY THE
APPROPRIATE REVIEWING
AGENCIES, JR ENGINEERING
APPROVES THEIR USE
FOR THE PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION.



KEY MAP
SCALE: 1"=1000'

LEGEND

SEDIMENT BASIN	(SB)	TOE TOP
SILT FENCE	(SF)	SF
STABILIZED STAGING AREA	(SSA)	
CONSTRUCTION MARKER	(CM)	□ □
VEHICLE TRACKING CONTROL	(VTC)	
TEMPORARY STOCK PILE	(TSP)	
EROSION CONTROL BLANKET	(ECB)	
INLET PROTECTION	(IP)	
OUTLET PROTECTION	(OP)	
DIVERSION DITCH AND DIKE, TEMPORARY	(DD)	
CUT AND FILL LINE		C/F C/F
LIMITS OF CONSTRUCTION	(LOC)	
CONCRETE WASHOUT AREA	(CWA)	
MULCHING & PERMANENT SEEDING	(MU) (PS)	
TEMPORARY SLOPE DRAIN	(TSD)	
REINFORCED ROCK BERM	(RRB)	
CHECK DAM	(CD)	

NOTES

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- SEE SHEET 3 FOR SWALE CROSS SECTIONS THAT INCLUDES EROSION CONTROL BLANKET AND SEEDING.

BMP PHASING

INITIAL (NOVEMBER - DECEMBER 2019):
1) INSTALL VTC
2) INSTALL CWA
3) ESTABLISH SSA
4) INSTALL CONSTRUCTION MARKERS
5) INSTALL SILT FENCE
6) INSTALL SEDIMENT BASINS
7) INSTALL DIVERSION DITCHES

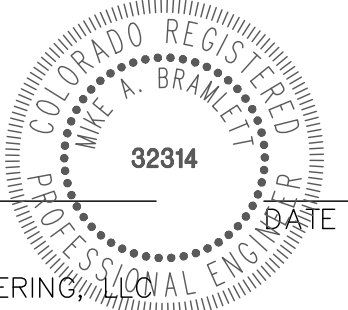
INTERIM (DECEMBER 2019 - SEPTEMBER 2020):
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2) MAINTAIN ALL BMPs
3) INSTALL RRBs
4) INSTALL INLET AND OUTLET PROTECTION
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FINAL (OCTOBER - NOVEMBER 2020):
1) INSTALL MULCH AND PERMANENT SEEDING IN ALL DISTURBED AREAS
2) REMOVE SILT FENCE AFTER STABILIZED

FINAL STABILIZATION ANTICIPATED NOVEMBER 2020.

ENGINEER'S STATEMENT

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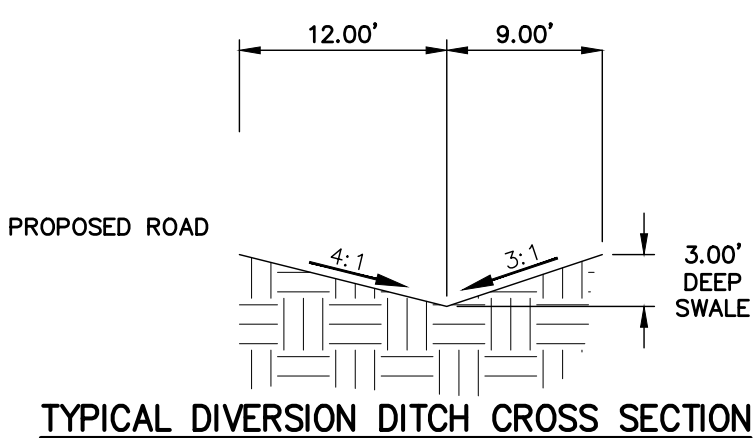
MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING

OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

BILL GUMAN DATE

WILLIAM GUMAN AND ASSOCIATES
731 NORTH WEBER STREET
COLORADO SPRINGS, CO 80903



TYPICAL DIVERSION DITCH CROSS SECTION



Know what's below.
Call before you dig.

60 30 0 60
ORIGINAL SCALE: 1" = 60'

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BY DATE

No. REVISION

1"=60'

H-SCALE
V-SCALE

DATE

DESIGNED BY

DRAWN BY

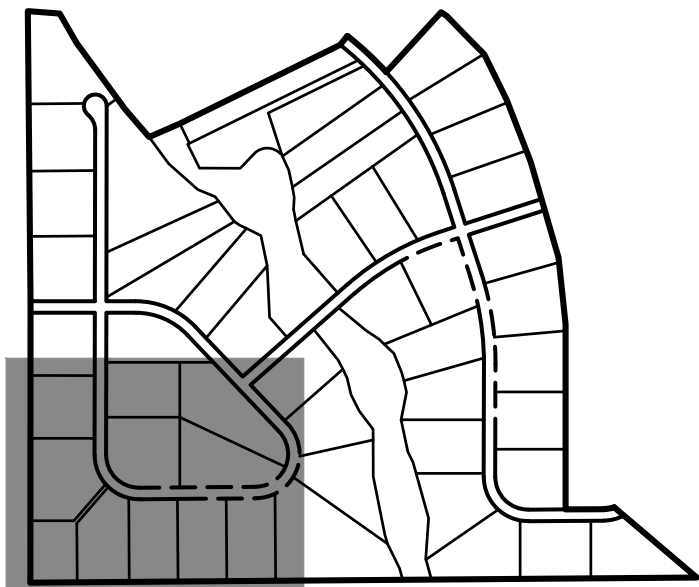
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SADDLEHORN RANCH -
FILING 1

GRADING AND EROSION
CONTROL PLANS

SHEET 4 OF 15

JOB NO. 2514202



KEY MAP
SCALE: 1"=1000'

LEGEND

SEDIMENT BASIN	SB	TOE TOP
SILT FENCE	SF	SF
STABILIZED STAGING AREA	SSA	
CONSTRUCTION MARKER	CM	
VEHICLE TRACKING CONTROL	VTC	
TEMPORARY STOCK PILE	TSP	
EROSION CONTROL BLANKET	ECB	
INLET PROTECTION	IP	
OUTLET PROTECTION	OP	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
CUT AND FILL LINE	C/F	C/F
LIMITS OF CONSTRUCTION	LOC	
CONCRETE WASHOUT AREA	CWA	
MULCHING & PERMANENT SEEDING	MU PS	
TEMPORARY SLOPE DRAIN	TSB	
REINFORCED ROCK BERM	RRB	
CHECK DAM	CD	

NOTES

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BMP PHASING

INITIAL (NOVEMBER - DECEMBER 2019):
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5) INSTALL SILT FENCE
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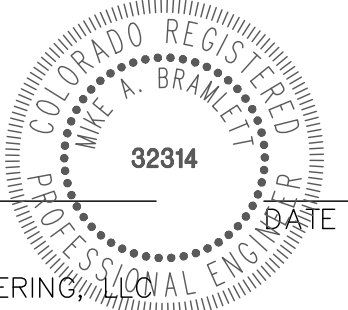
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FINAL STABILIZATION ANTICIPATED NOVEMBER 2020.

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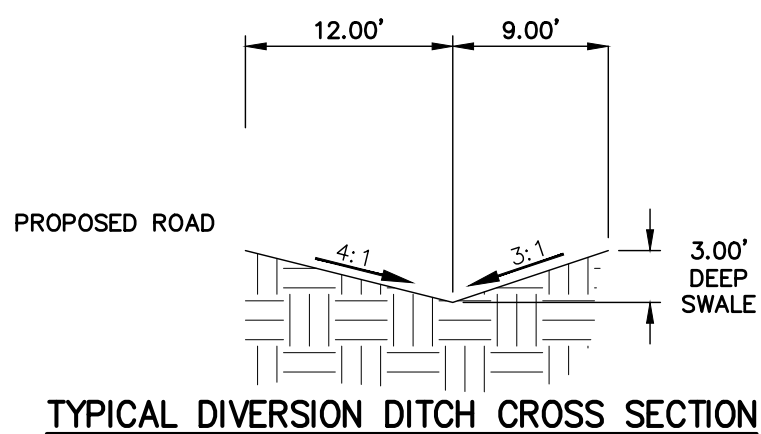
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BILL GUMAN DATE

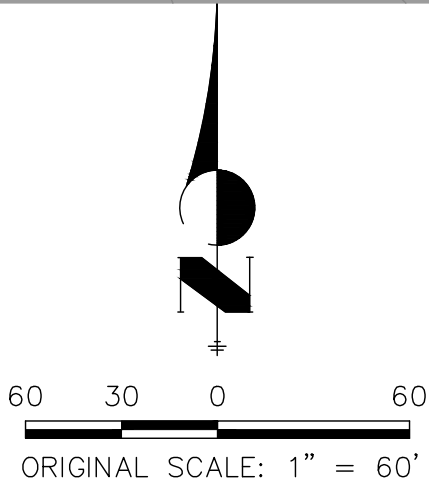
WILLIAM GUMAN AND ASSOCIATES
731 NORTH WEBER STREET
COLORADO SPRINGS, CO 80903



TYPICAL DIVERSION DITCH CROSS SECTION



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BY DATE

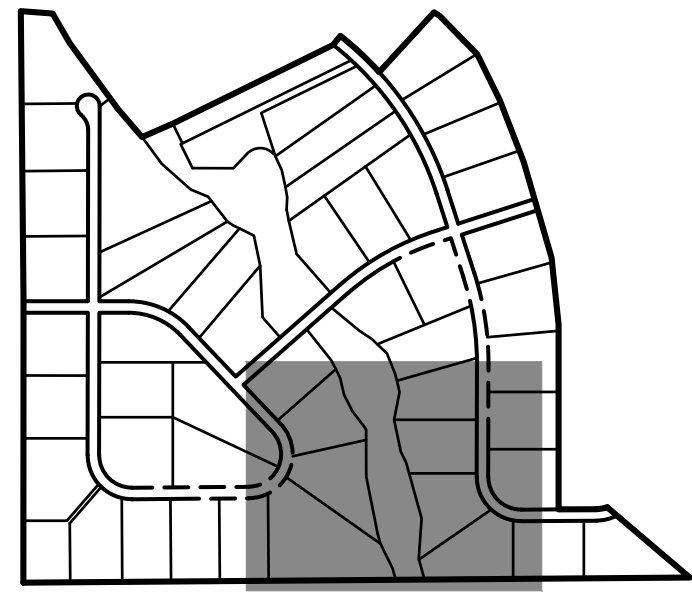
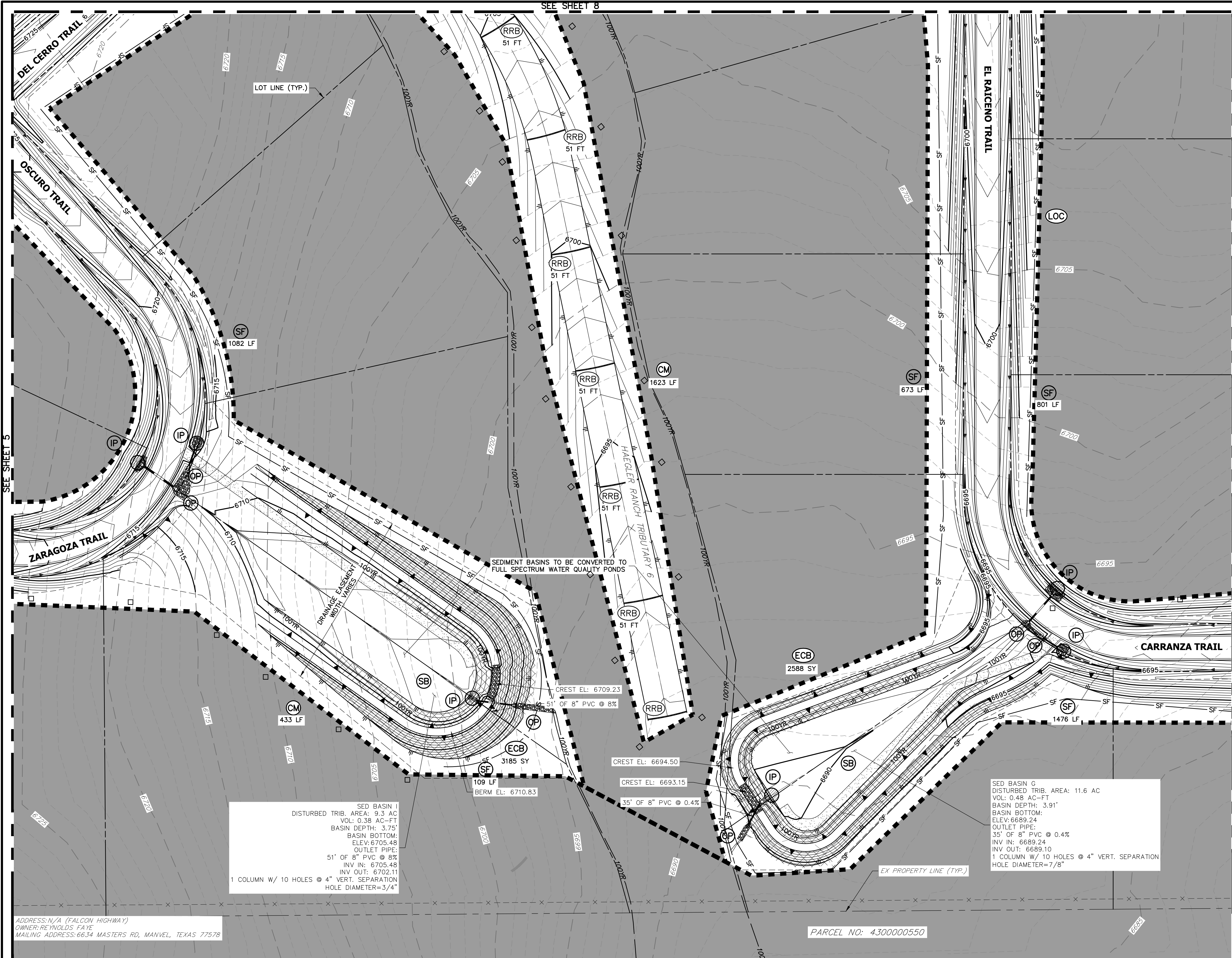
REVISION

No. 1"=60'

SADDLEHORN RANCH -
FILING 1
GRADING AND EROSION
CONTROL PLANS

SHEET 5 OF 15

JOB NO. 2514202



KEY MAP
SCALE: 1"=1000'

LEGEND

SEDIMENT BASIN	SB	TOE TOP
SILT FENCE	SF	SF
STABILIZED STAGING AREA	SSA	
CONSTRUCTION MARKER	CM	□
VEHICLE TRACKING CONTROL	VTC	
TEMPORARY STOCK PILE	TSP	
EROSION CONTROL BLANKET	ECB	
INLET PROTECTION	IP	
OUTLET PROTECTION	OP	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
CUT AND FILL LINE		C/F
LIMITS OF CONSTRUCTION	LOC	
CONCRETE WASHOUT AREA	CWA	
MULCHING & PERMANENT SEEDING	MU PS	
TEMPORARY SLOPE DRAIN	TSR	
REINFORCED ROCK BERM	RRB	
CHECK DAM	CD	

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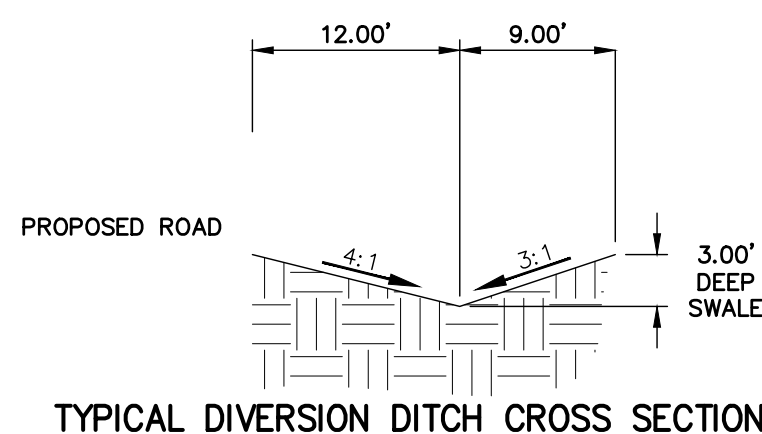
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BILL GUMAN

DATE

WILLIAM GUMAN AND ASSOCIATES
731 NORTH WEBER STREET
COLORADO SPRINGS, CO 80903



TYPICAL DIVERSION DITCH CROSS SECTION



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ORIGINAL SCALE: 1" = 60'

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NAPA, CALIFORNIA
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BRADY WILLIAMS

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A Western Company



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No.

1"=60'

H-SCALE
V-SCALE

DATE

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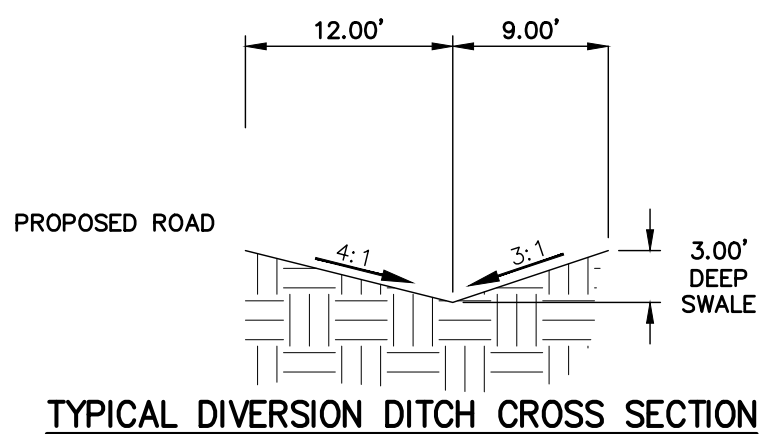
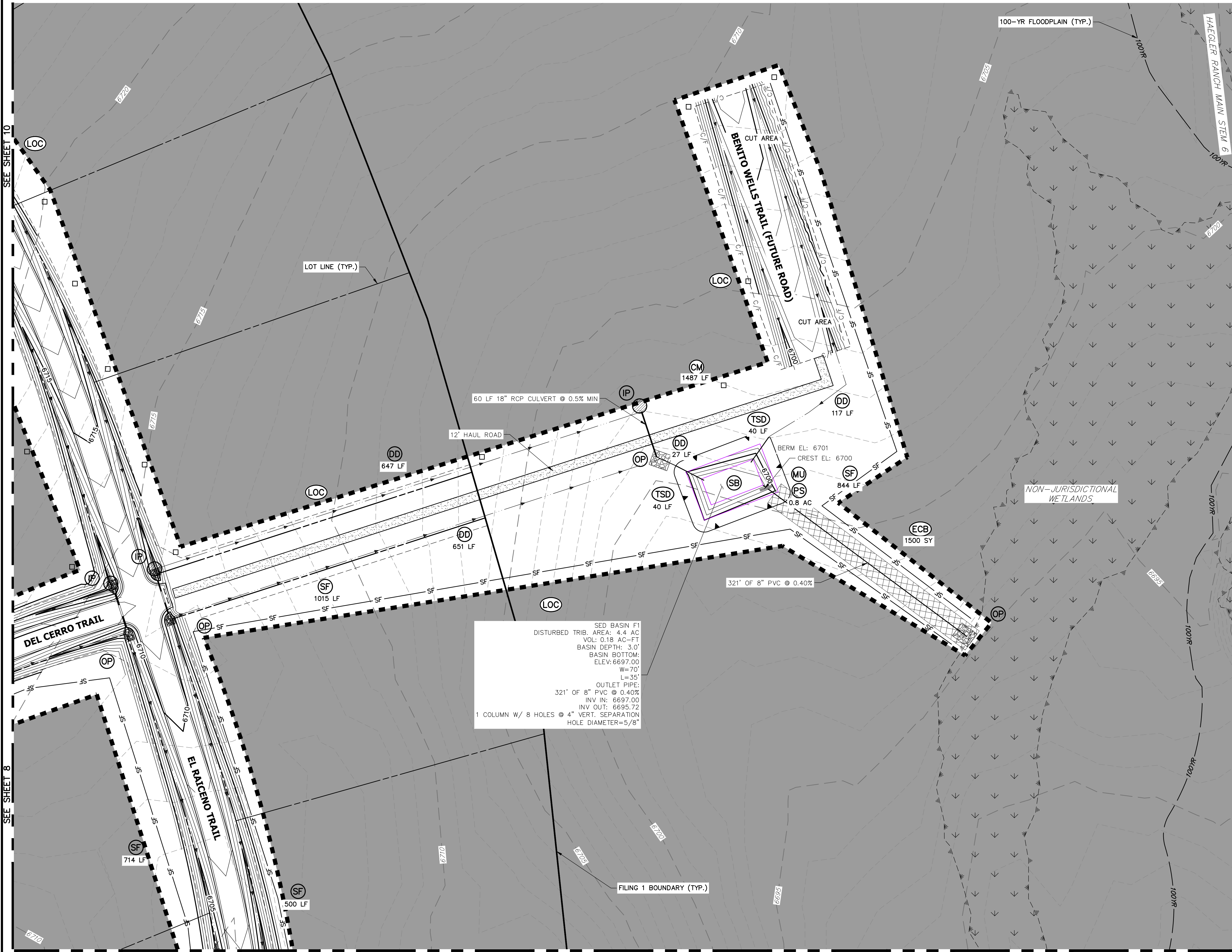
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SADDLEHORN RANCH -
FILING 1

GRADING AND EROSION
CONTROL PLANS

SHEET 6 OF 15

JOB NO. 2514202



SEE SHEET 7



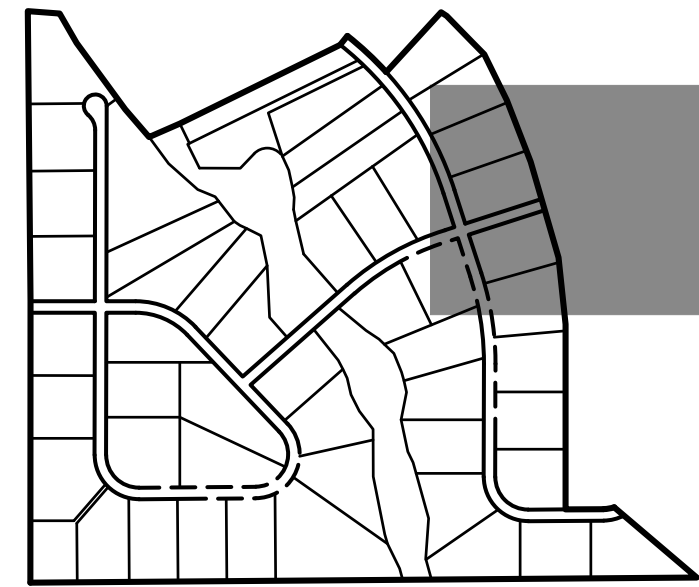
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BILL GUMAN

DATE

WILLIAM GUMAN AND ASSOCIATES
731 NORTH WEBER STREET
COLORADO SPRINGS, CO 80903



KEY MAP
SCALE: 1"=1000'

LEGEND

SEDIMENT BASIN	(SB)	TOE TOP
SILT FENCE	(SF)	SF
STABILIZED STAGING AREA	(SSA)	
CONSTRUCTION MARKER	(CM)	□ □
VEHICLE TRACKING CONTROL	(VTC)	
TEMPORARY STOCK PILE	(TSP)	
EROSION CONTROL BLANKET	(ECB)	
INLET PROTECTION	(IP)	
OUTLET PROTECTION	(OP)	
DIVERSION DITCH AND DIKE, TEMPORARY	(DD)	
CUT AND FILL LINE		C/F C/F
LIMITS OF CONSTRUCTION	(LOC)	
CONCRETE WASHOUT AREA	(CWA)	
MULCHING & PERMANENT SEEDING	(MU) (PS)	
TEMPORARY SLOPE DRAIN	(TSD)	
REINFORCED ROCK BERM	(RRB)	
CHECK DAM	(CD)	

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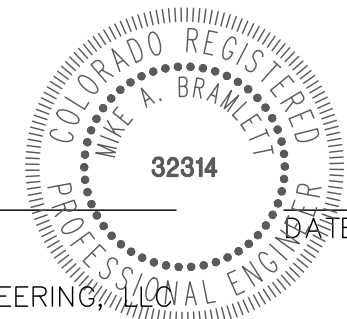
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PREPARED FOR

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BRADY WILLIAMS

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A Western Company



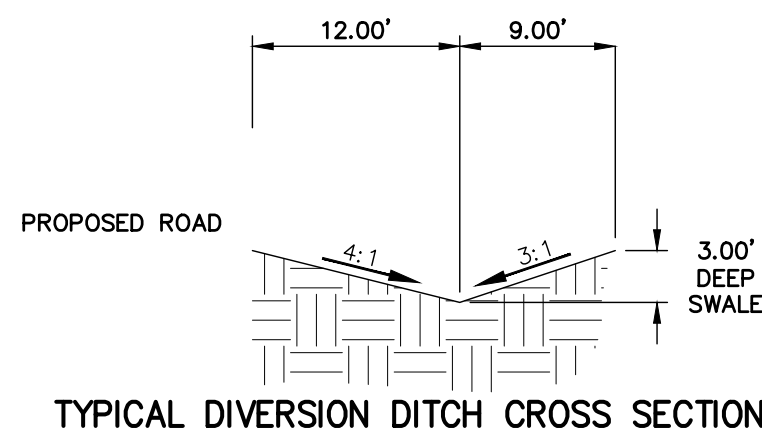
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SADDLEHORN RANCH –
FILING 1

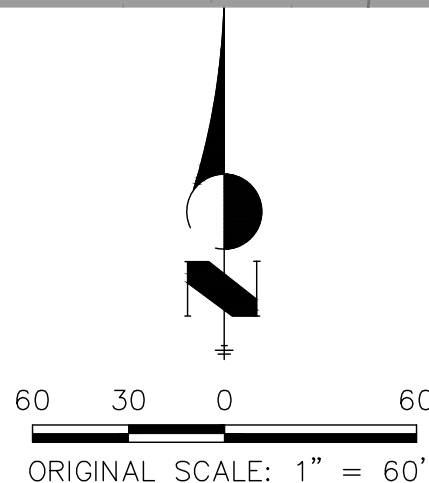
GRADING AND EROSION
CONTROL PLANS

SHEET 9 OF 15

JOB NO. 2514202



811
Know what's below.
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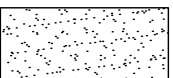



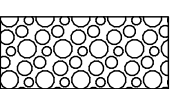



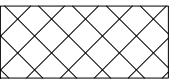






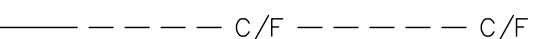






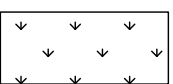





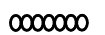


I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

BILL GUMAN
WILLIAM GUMAN AND ASSOCIATES
731 NORTH WEBER STREET
COLORADO SPRINGS, CO 80903

DATE _____



- | | | |
|--|---|---|
| SEDIMENT BASIN |  |  |
| SILT FENCE |  |  |
| STABILIZED STAGING AREA |  |  |
| CONSTRUCTION MARKER |  |  |
| VEHICLE TRACKING CONTROL |  |  |
| TEMPORARY STOCK PILE |  |  |
| EROSION CONTROL BLANKET |  |  |
| INLET PROTECTION |  |  |
| OUTLET PROTECTION |  |  |
| DIVERSION DITCH AND DIKE,
TEMPORARY |  |  |
| CUT AND FILL LINE | |  |
| LIMITS OF CONSTRUCTION |  |  |
| CONCRETE WASHOUT AREA |  |  |
| MULCHING & PERMANENT
SEEDING |   |  |
| TEMPORARY SLOPE DRAIN |  |  |
| REINFORCED ROCK BERM |  |  |
| CHECK DAM |  |  |

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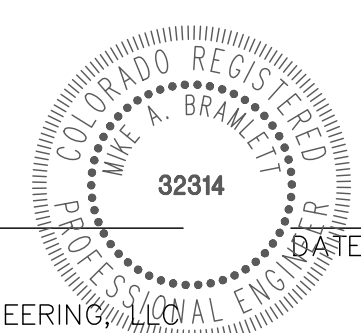
- 1) LOCATE/INSTALL TEMPORARY STOCKPILE
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- 2) REMOVE SILT FENCE AFTER STABILIZED

FINAL STABILIZATION ANTICIPATED NOVEMBER 2020.

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COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

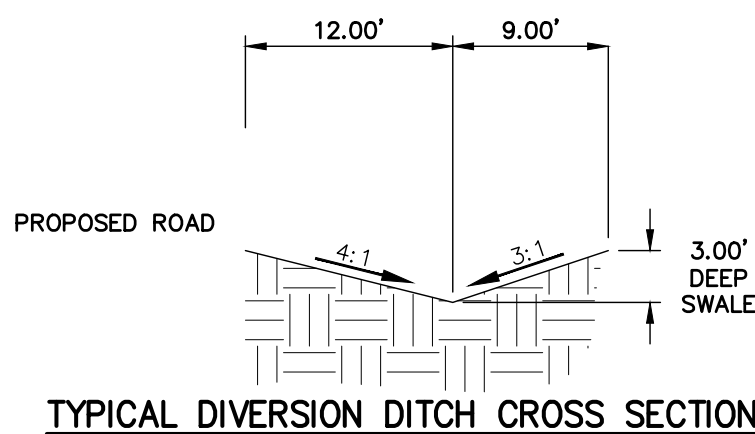
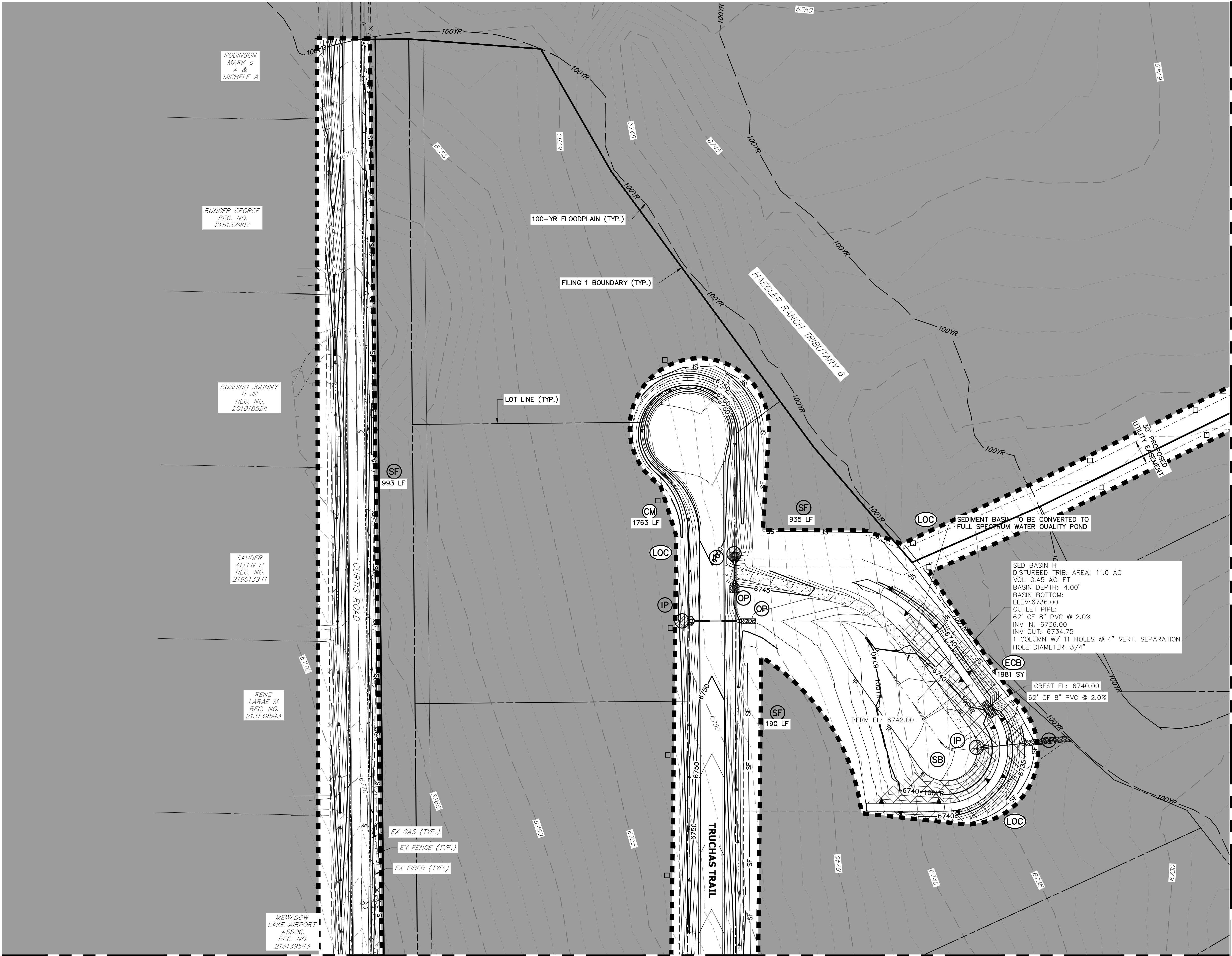
PREPARED FOR

ROI PROPERTY GROUP, LLC
2495 RIDGON STREET
NAPA, CALIFORNIA
(707) 365-6891
BRADY WILLIAMS

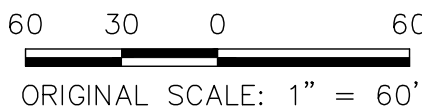


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SHEET	7	OF	15
<div> <div> SADDLEHORN RANCH – FILING 1 </div> <div> GRADING AND EROSION CONTROL PLANS </div> </div>			
H-SCALE V-SCALE		1" = 60' NA	No. REVISION
DATE		09/11/19	BY
DESIGNED BY		RPD	
DRAWN BY		RPD	
CHECKED BY			



SEE SHEET 4



OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

BILL GUMAN

DATE

WILLIAM GUMAN AND ASSOCIATES
731 NORTH WEBER STREET
COLORADO SPRINGS, CO 80903

LEGEND

SEDIMENT BASIN	(SB)		TOE TOP
SILT FENCE	(SF)		SF
STABILIZED STAGING AREA	(SSA)		
CONSTRUCTION MARKER	(CM)		
VEHICLE TRACKING CONTROL	(VTC)		
TEMPORARY STOCK PILE	(TSP)		
EROSION CONTROL BLANKET	(ECB)		
INLET PROTECTION	(IP)		
OUTLET PROTECTION	(OP)		
DIVERSION DITCH AND DIKE, TEMPORARY	(DD)		
CUT AND FILL LINE			C/F
LIMITS OF CONSTRUCTION	(LOC)		
CONCRETE WASHOUT AREA	(CWA)		
MULCHING & PERMANENT SEEDING	(MU) (PS)		
TEMPORARY SLOPE DRAIN	(TSD)		
REINFORCED ROCK BERM	(RRB)		
CHECK DAM	(CD)		

NOTES

- REFER TO THE STORMWATER MANAGEMENT PLAN (SWMP) FOR A DETAILED DESCRIPTION OF THE MAINTENANCE PROGRAMS FOR EROSION CONTROL FACILITIES.
- SEE SHEET 3 FOR SWALE CROSS SECTIONS THAT INCLUDES EROSION CONTROL BLANKET AND SEEDING.

BMP PHASING

INITIAL (NOVEMBER - DECEMBER 2019):

- 1) INSTALL VTC
- 2) INSTALL CWA
- 3) ESTABLISH SSA
- 4) INSTALL CONSTRUCTION MARKERS
- 5) INSTALL SILT FENCE
- 6) INSTALL SEDIMENT BASINS
- 7) INSTALL DIVERSION DITCHES

INTERIM (DECEMBER 2019 - SEPTEMBER 2020):

- 1) LOCATE/INSTALL TEMPORARY STOCKPILE
- 2) MAINTAIN ALL BMPs
- 3) INSTALL RRBs
- 4) INSTALL INLET AND OUTLET PROTECTION
- 5) INSTALL EROSION CONTROL BLANKETS

FINAL (OCTOBER - NOVEMBER 2020):

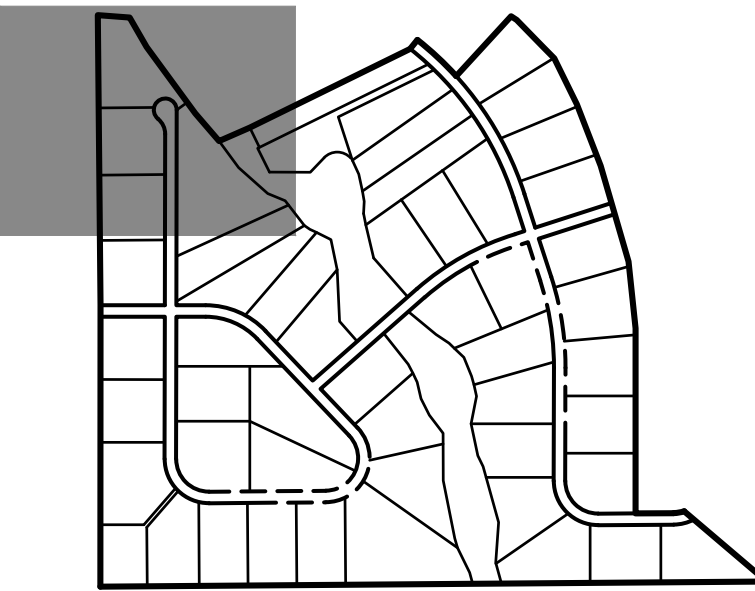
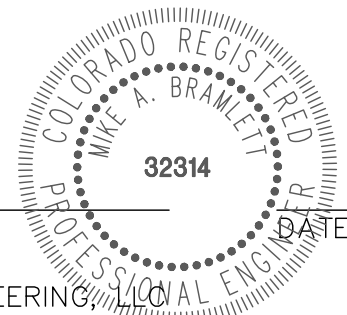
- 1) INSTALL MULCH AND PERMANENT SEEDING IN ALL DISTURBED AREAS
- 2) REMOVE SILT FENCE AFTER STABILIZED

FINAL STABILIZATION ANTICIPATED NOVEMBER 2020.

ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLANS.

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING



KEY MAP
SCALE: 1"=1000'

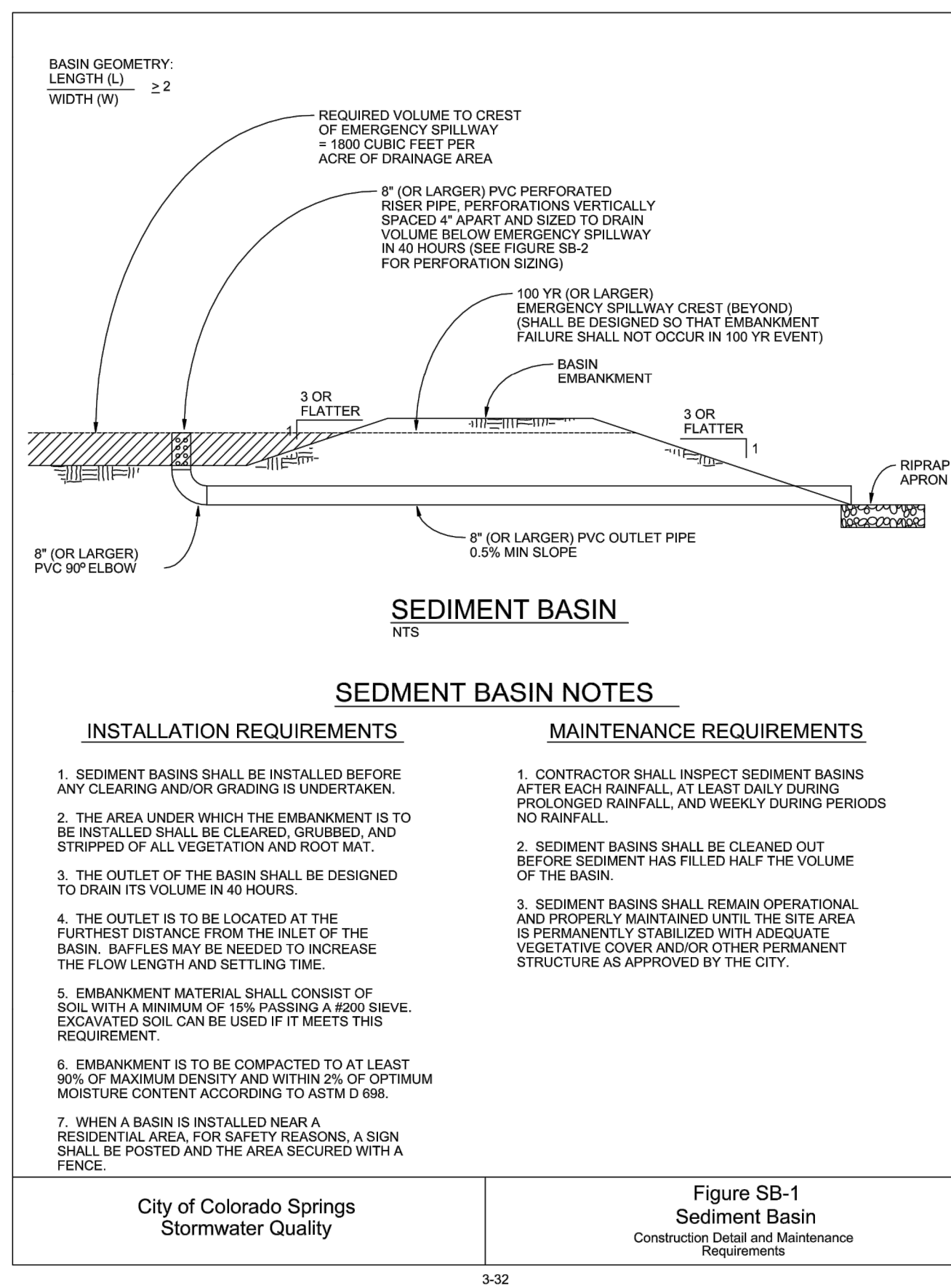
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BRADY WILLIAMS

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SADDLEHORN RANCH -
FILING 1
GRADING AND EROSION
CONTROL PLANS

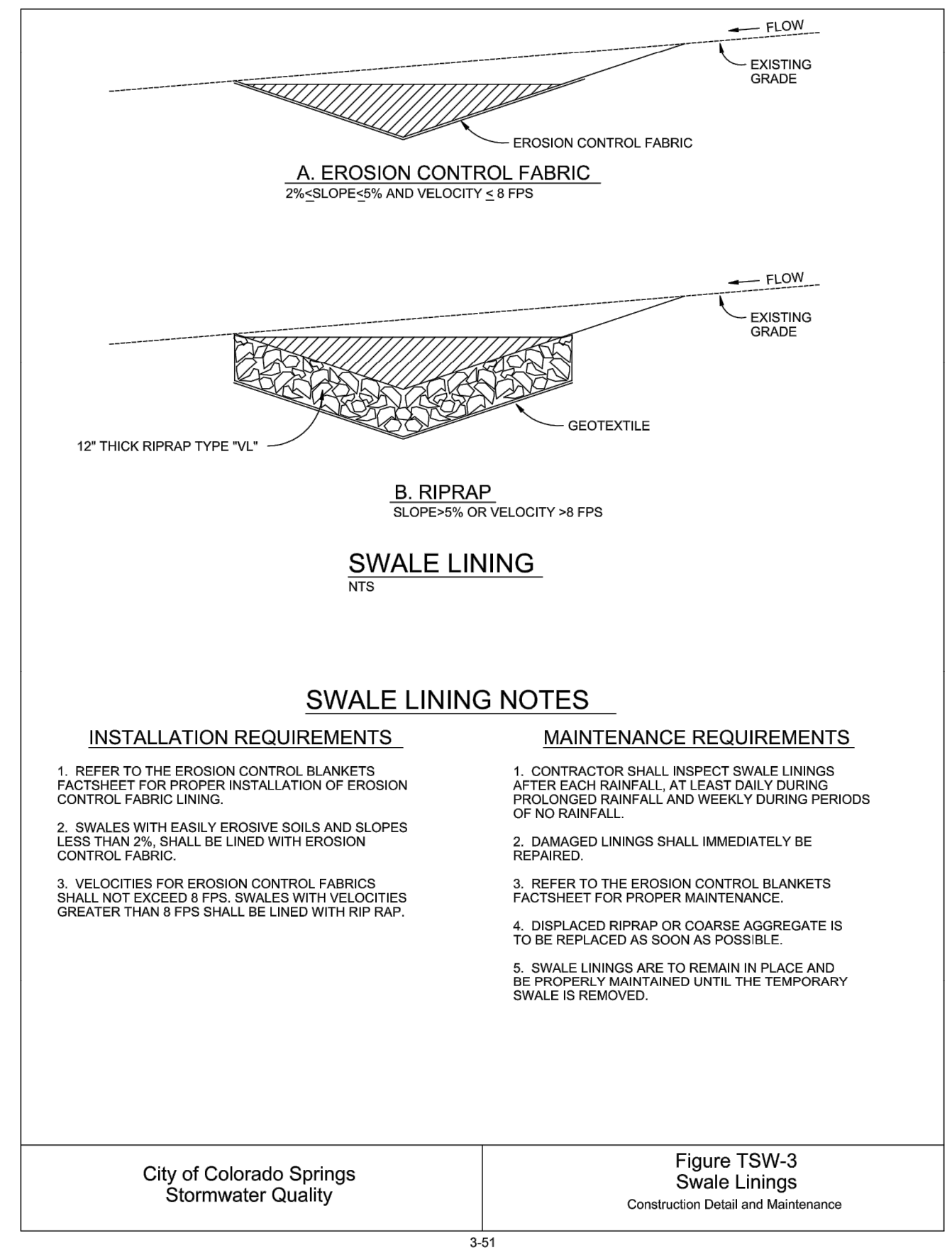
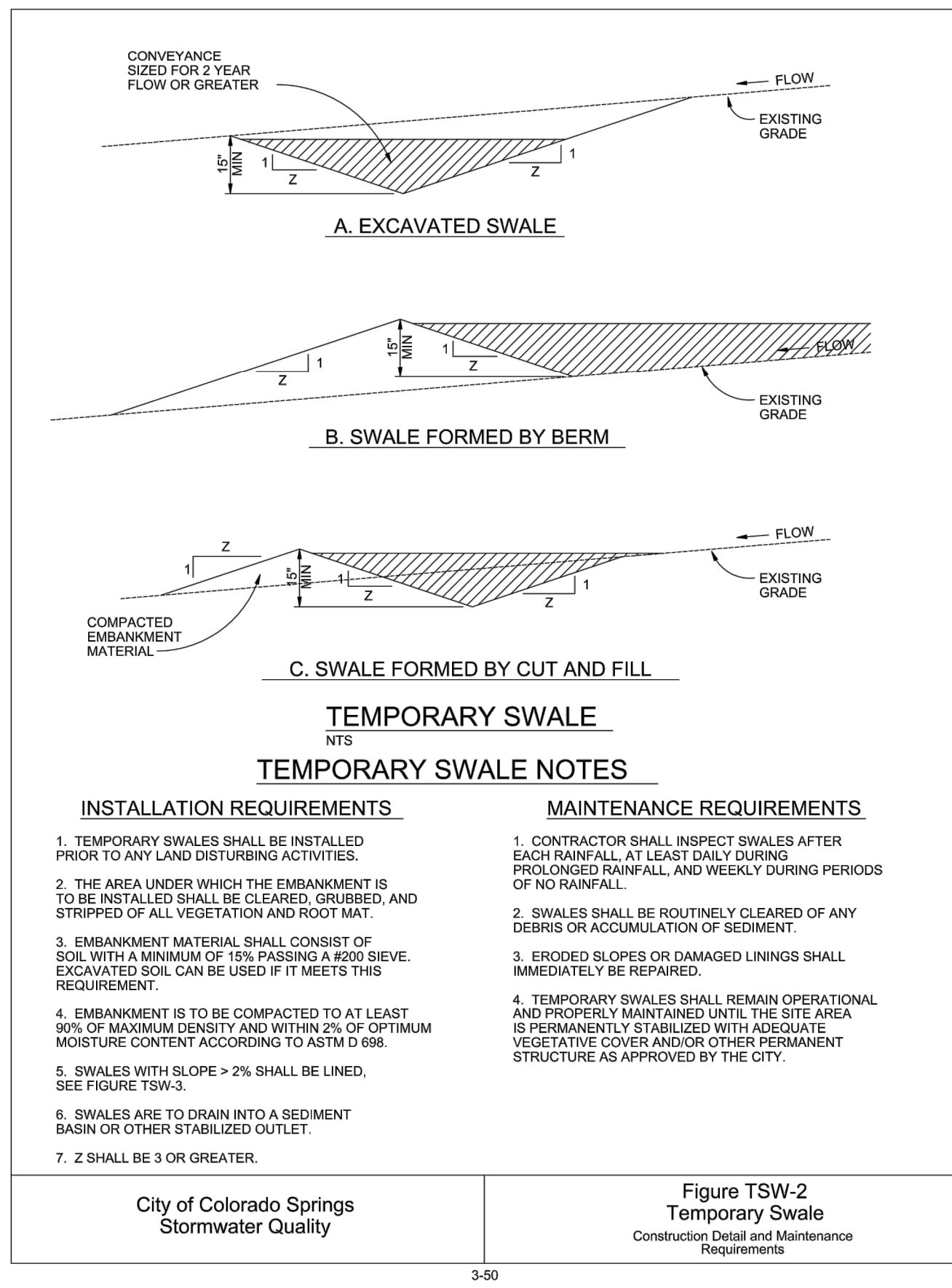
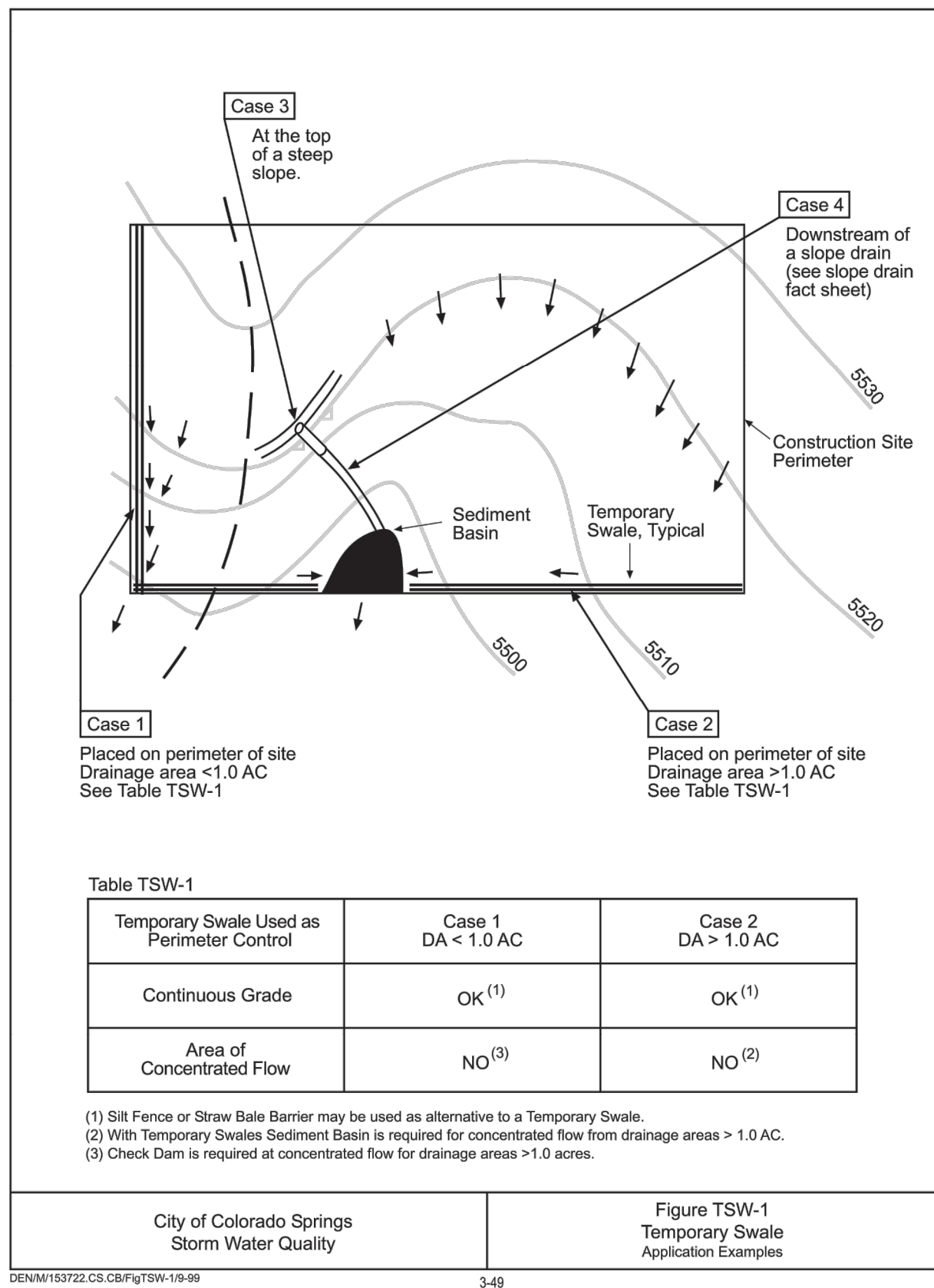
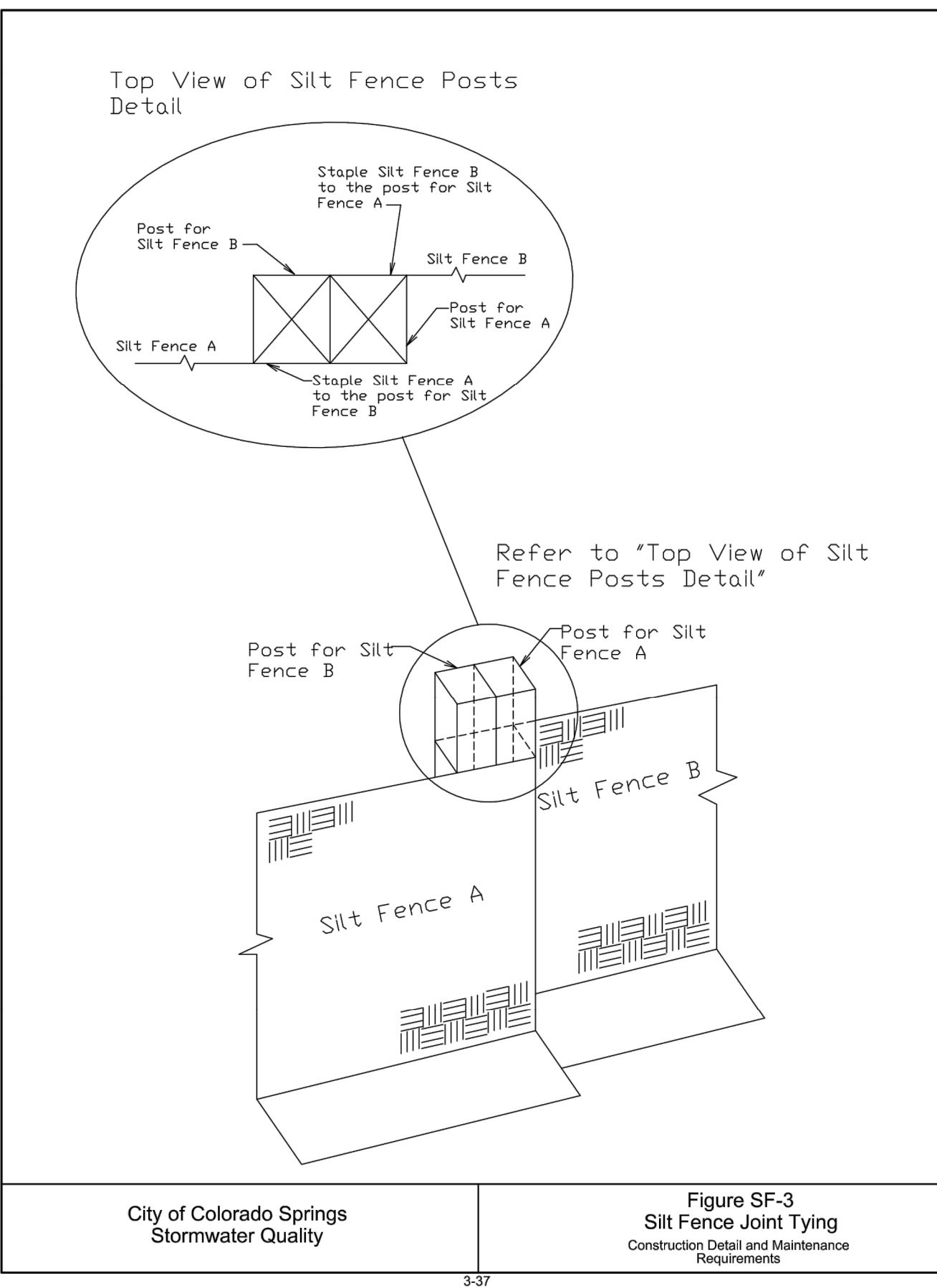
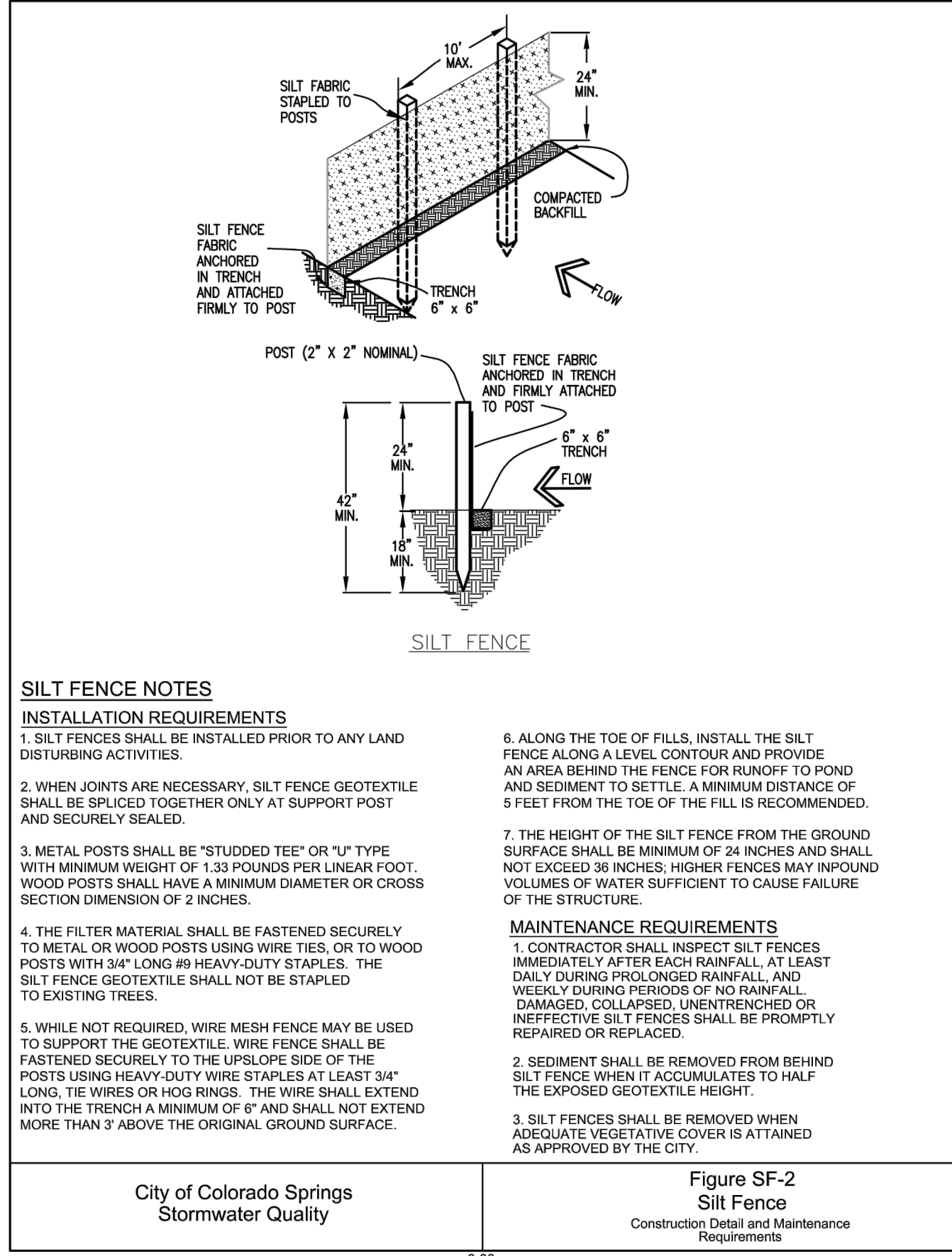
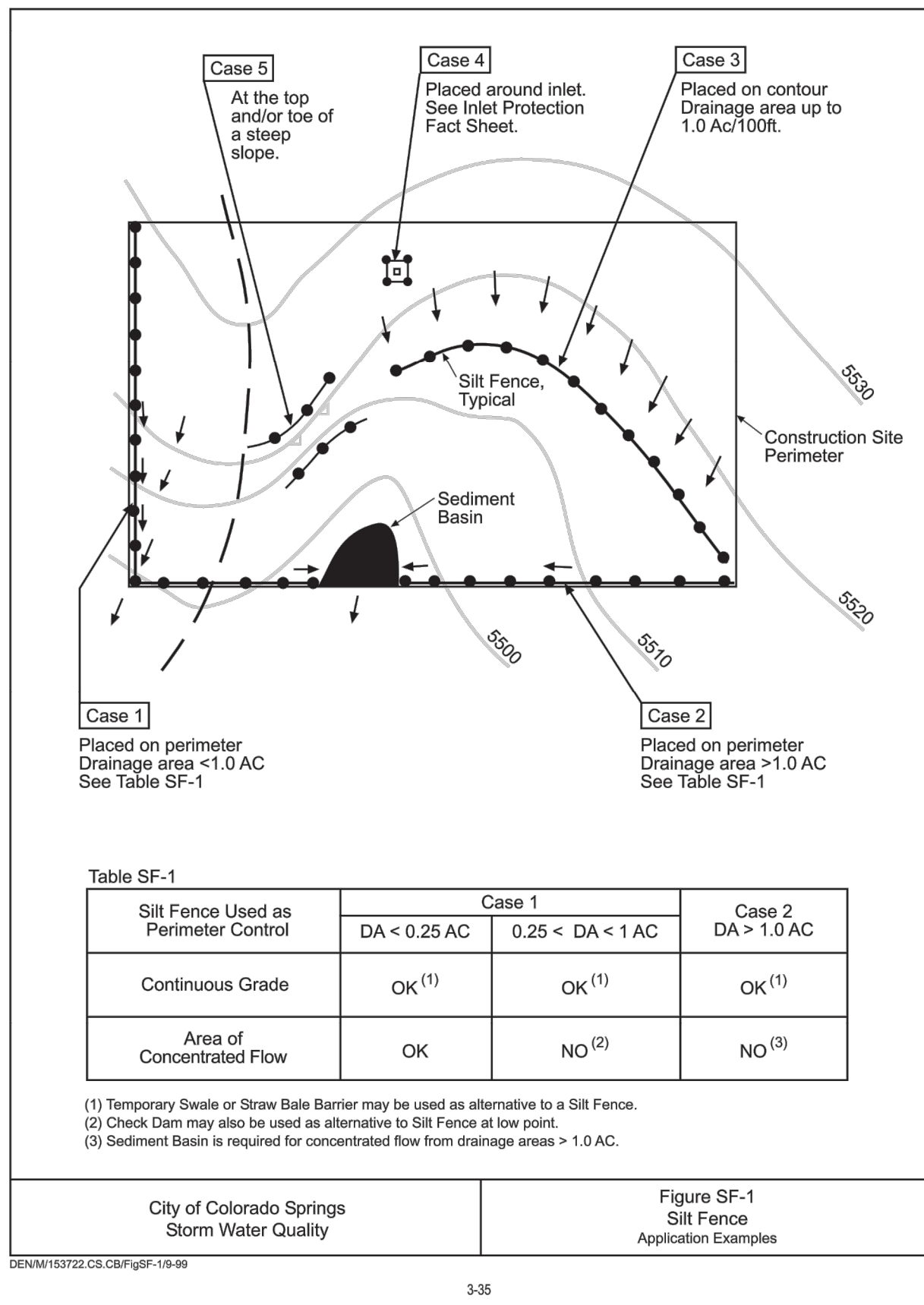
SHEET 11 OF 15

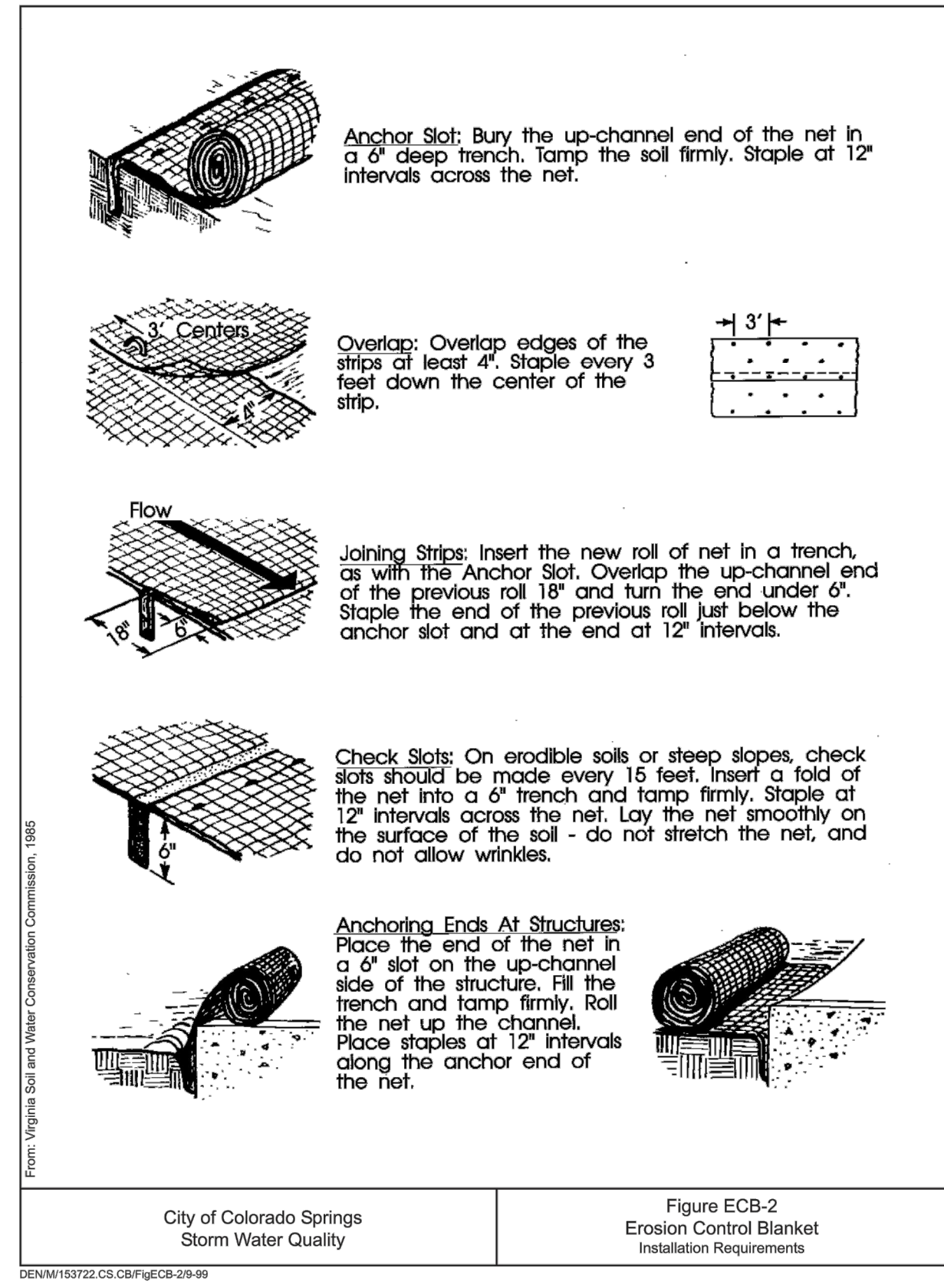
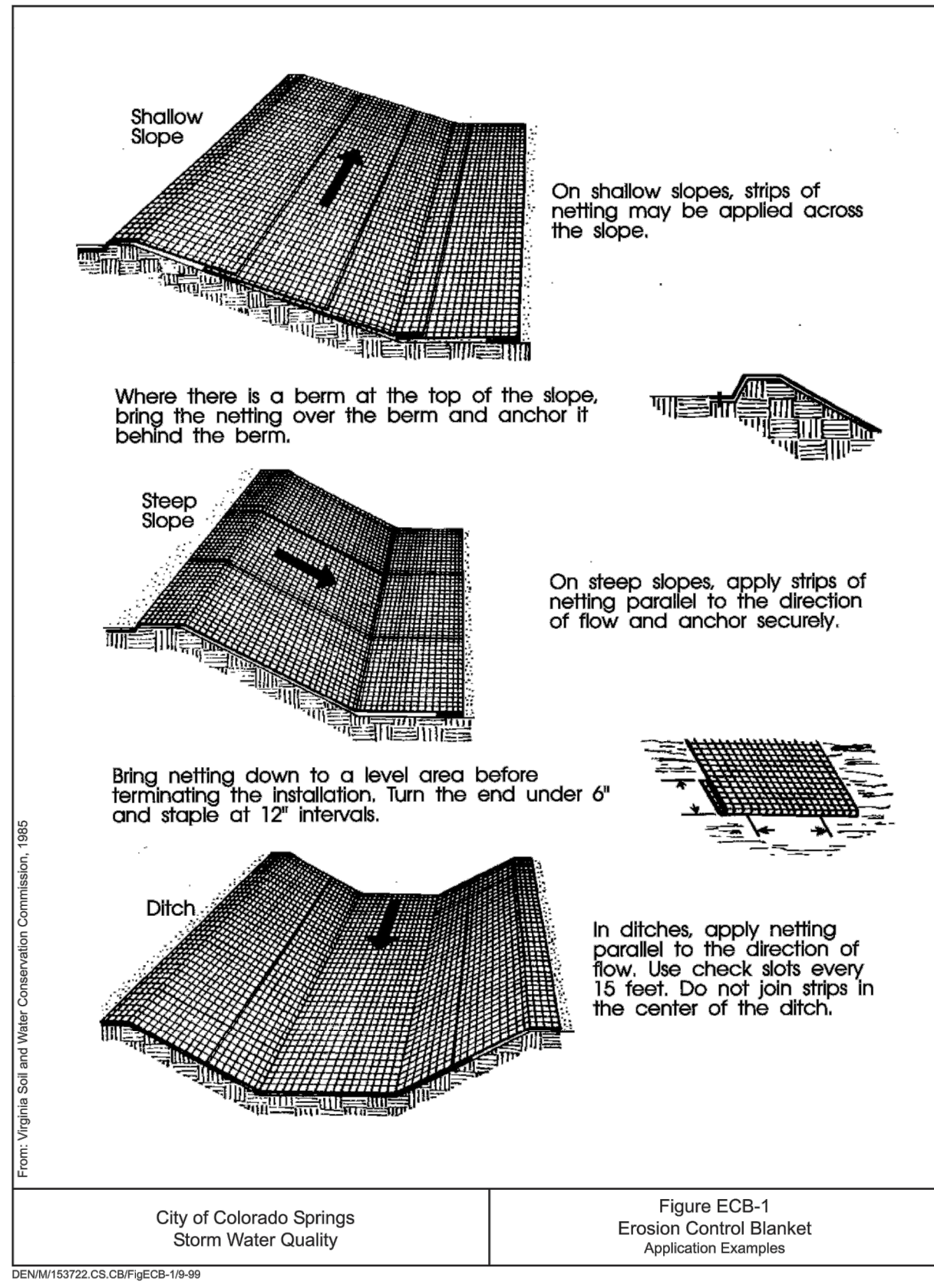
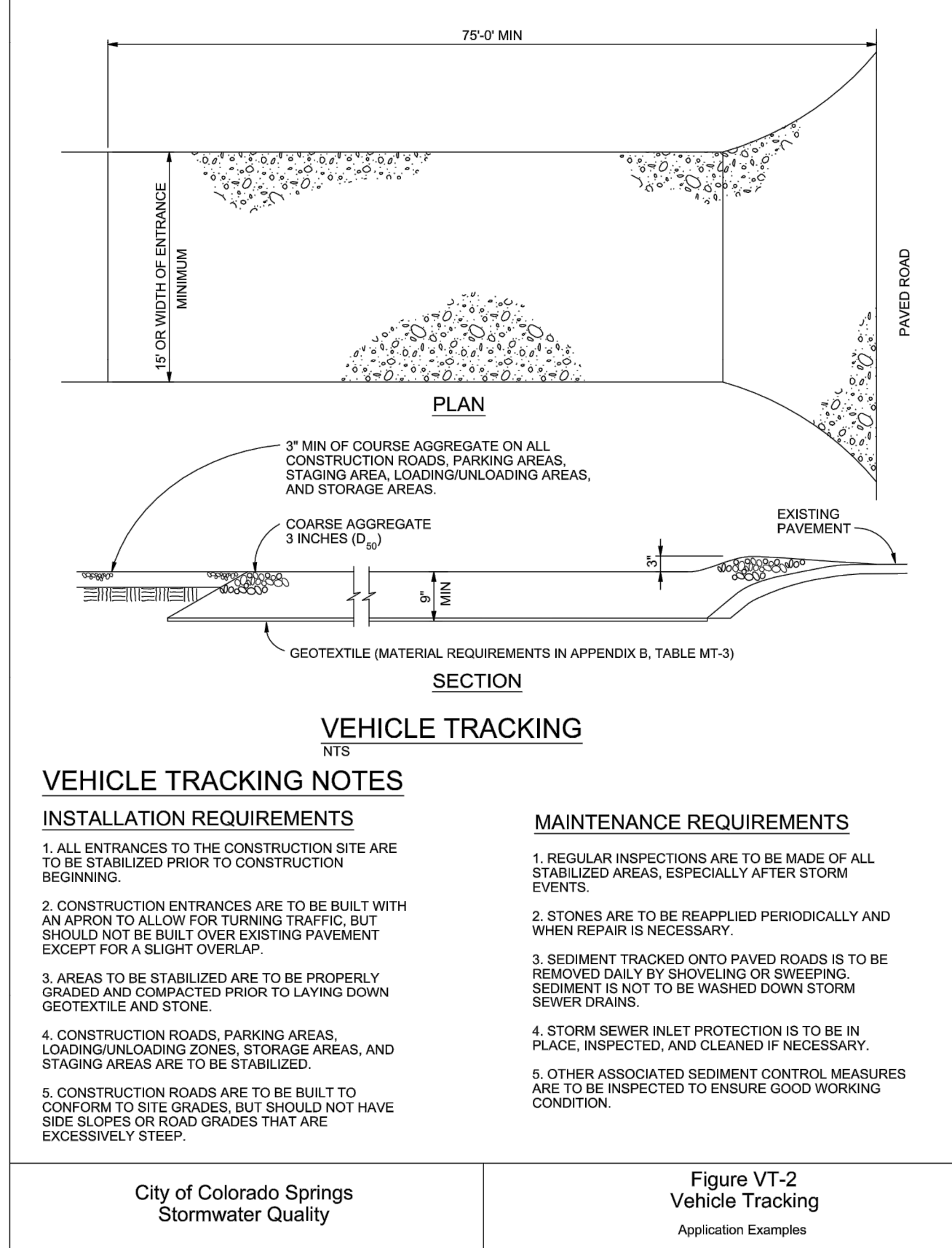
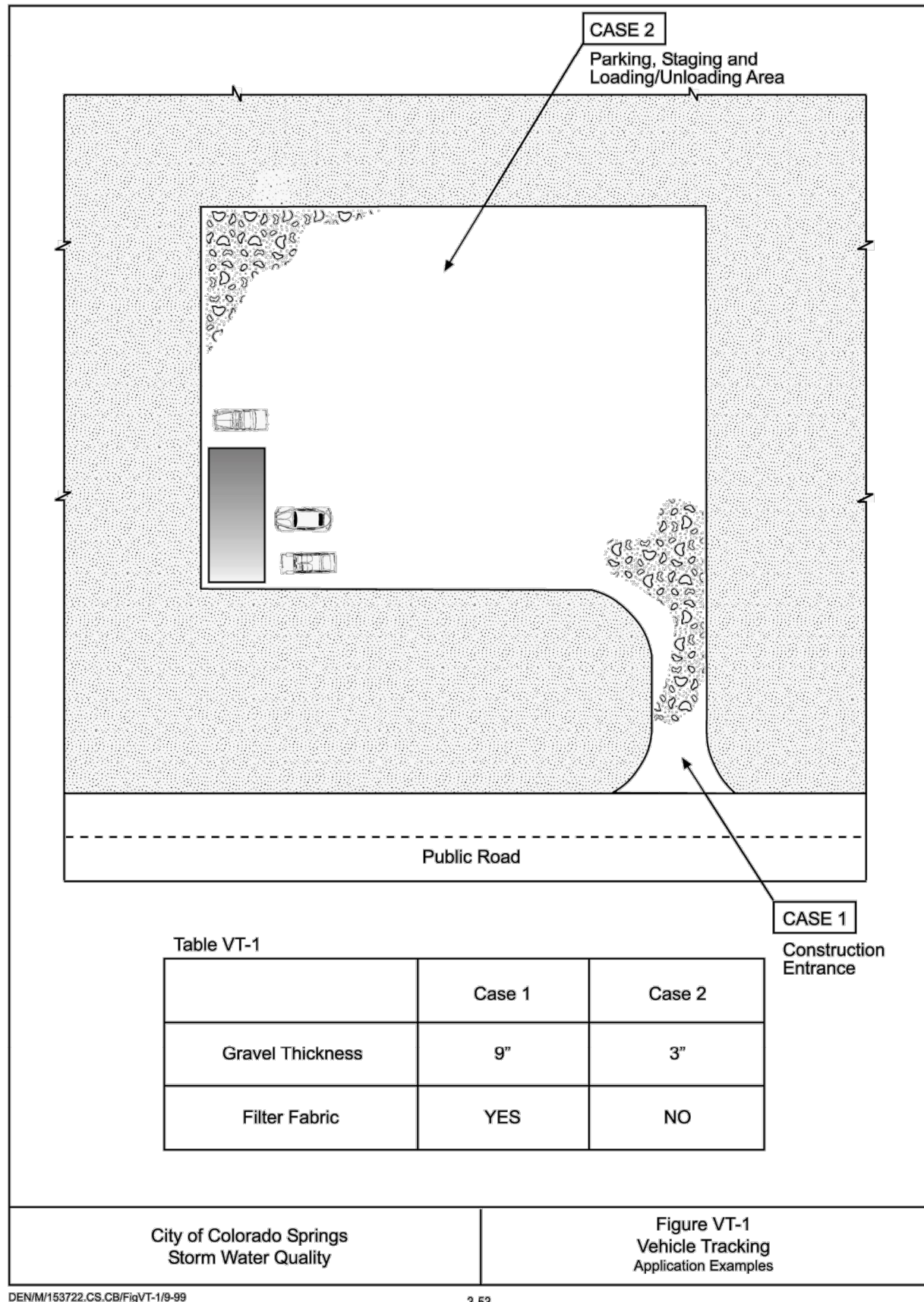
JOB NO. 2514202



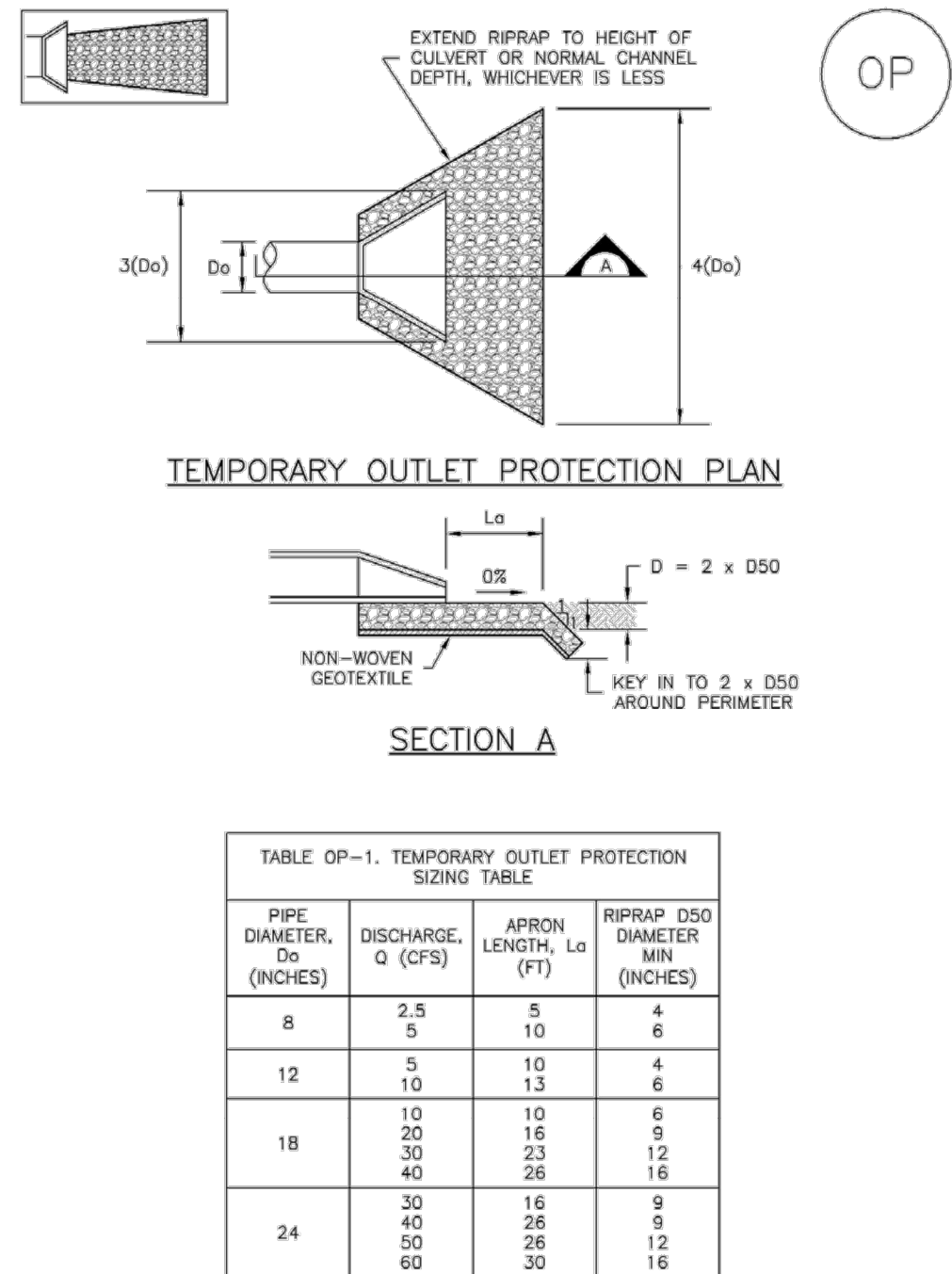
		Required Area per Row (m ²)							
		Depth at Outlet (ft)							
Design Volume (acre-ft)		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
	0	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73
	1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87
	0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52
	0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
	0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17
	0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09
	0.06	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05
	0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.04
	0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01	

Circular Perforation Sizing				
Hole Diameter (in)	Hole Diameter (mm)	Area per Row (in ²)		
n = 1	n = 2	n = 3		
1/4	0.250	0.10	0.15	0.19
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.60
5/8	0.625	0.25	0.50	0.75
3/4	0.750	0.31	0.61	0.92
7/8	0.875	0.37	0.74	1.11
1	1.000	0.44	0.88	1.33
1 1/8	1.125	0.59	1.19	1.80
1 1/4	1.250	0.73	1.45	2.16
1 3/8	1.375	0.88	1.76	2.59
1 1/2	1.500	1.10	2.20	3.30
1 5/8	1.625	1.33	2.67	4.00
1 3/4	1.750	1.61	3.22	4.89
1 7/8	1.875	2.16	4.50	6.75
2	2.000	2.75	5.50	8.25
		3.44	6.88	10.32



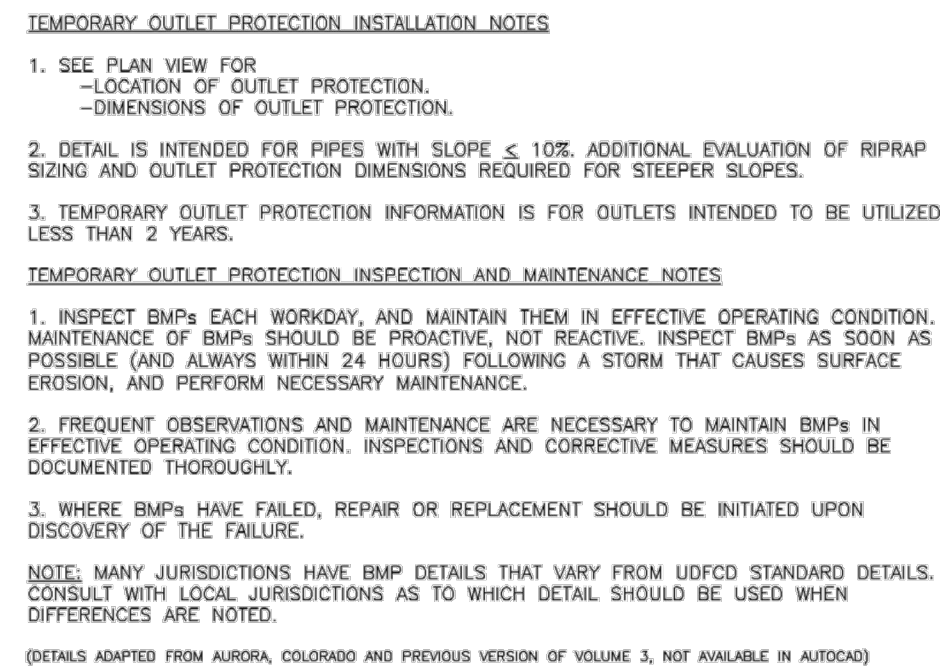


EC-8 Temporary Outlet Protection (TOP)



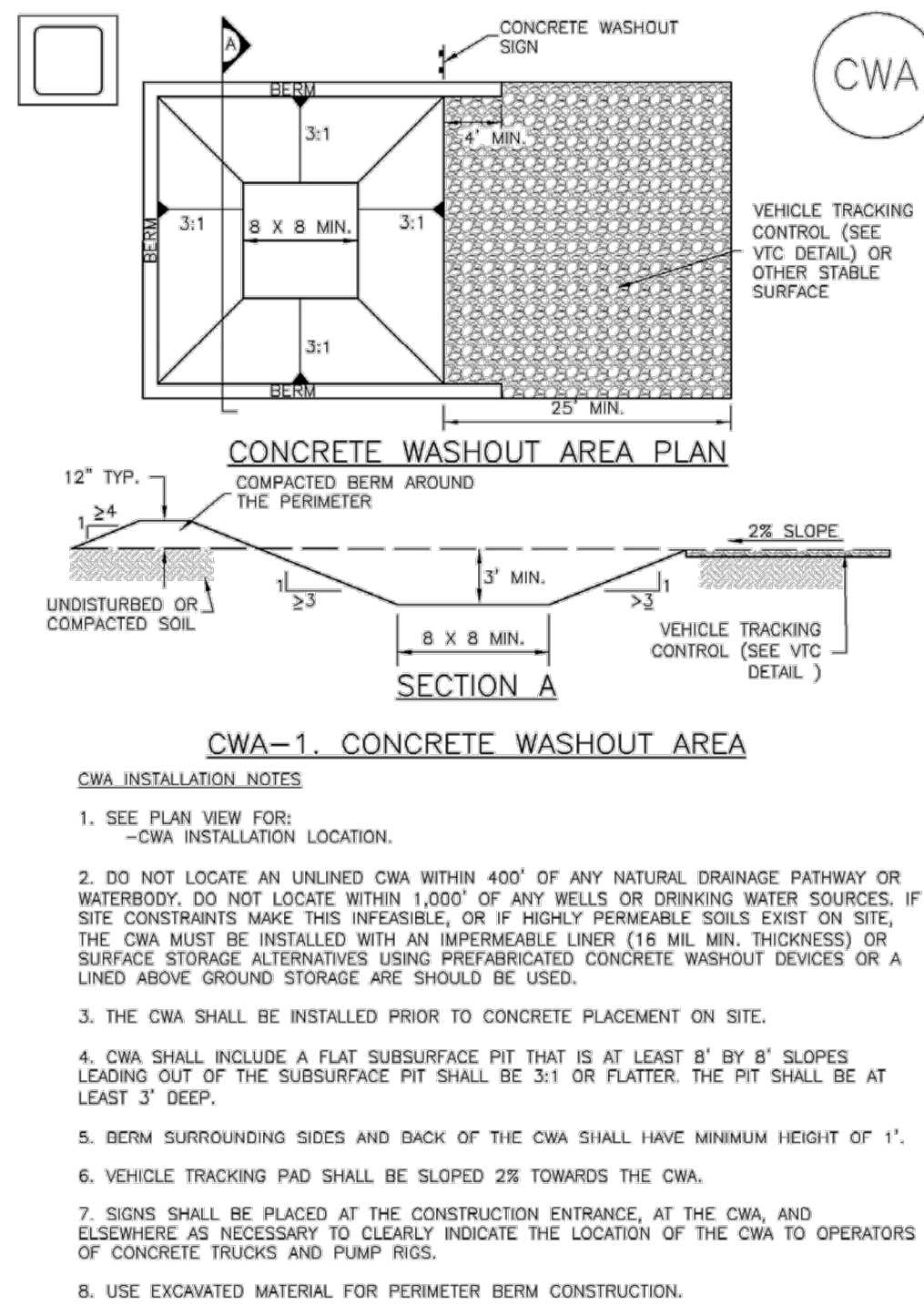
TOP-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

EC-8 Temporary Outlet Protection (TOP)



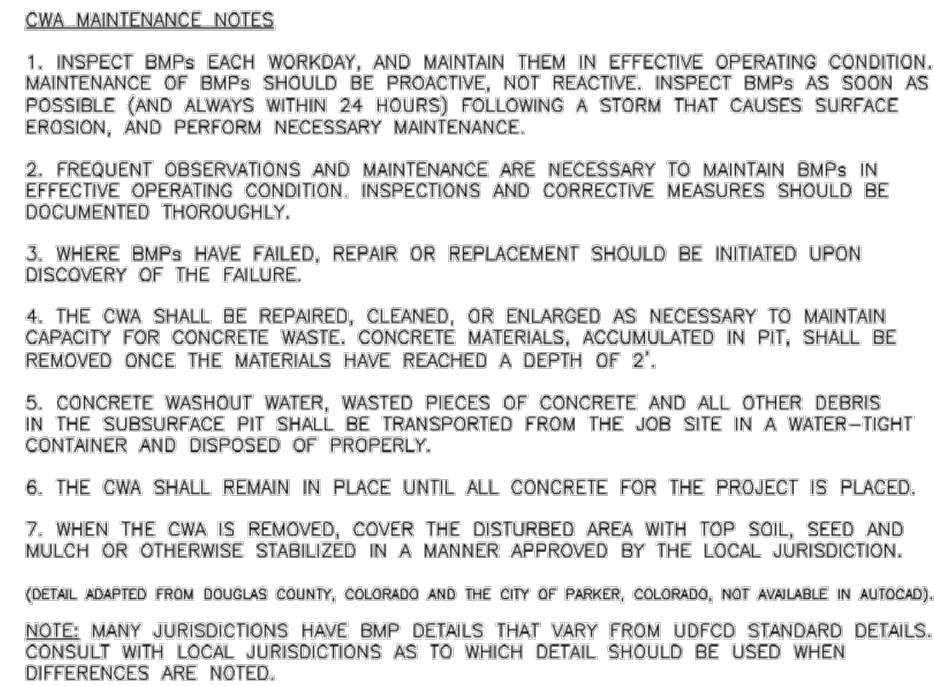
November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 TOP-3

EC-8 Concrete Washout Area (CWA)



November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 CWA-3

MM-1 Concrete Washout Area (CWA)



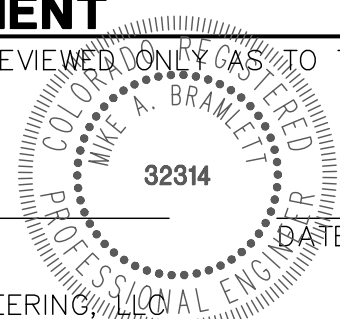
CWA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010



ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING



SADDLEHORN RANCH -
FILING 1
GRADING AND EROSION
CONTROL DETAILS

SHEET 13 OF 15

JOB NO. 2514202

BY	DATE	REVISION	No.	H-SCALE	N/A	V-SCALE	N/A	DATE	09/11/19	DESIGNED BY	NQJ	DRAWN BY	NQJ	CHECKED BY

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